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ORIGINAL ARTICLES.

A STUDY OF ATROPHY.[1]

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I WISH to invite your attention to an historical review of certain characteristics presented by that diminution of volume or mass of an organ or part that is described in one word, *atrophy*, and perhaps less to its pathological than to its clinical side. Strictly speaking there is a great difference between arrest of growth and atrophy in the true pathological sense of the word, and yet, as surgeons see these cases, there is at times so little apparent difference between the respective results of the two processes that we make very little clinical distinction between them. At all events, without dealing just now with minute differences, let us see what of interest a discussion of coarser features may bring out. I wish here to acknowledge no small indebtedness in this connection to a work published in 1882 by Mondan, entitled *Recherches Expérimentales et Cliniques sur les Atrophies des Membres*, which emanated from the Lyons school, and which is based largely on observations made in the clinic of Ollier, than whom no more accurate observer of such matters is known. It is a brochure little known or read, at least in this country, but it will amply repay perusal.

In Petit's *Traité des Maladies des Os*, ii. 23, we find some interesting notions concerning muscular atrophy after fractures, expressed thus: "Atrophy or diminution is an accident which supervenes, not at the beginning, but later, by enfeeblement of nerves and arteries which continue to be compressed, either by exuberant callus or by too tight bandaging. These obstacles to free circulation may cause lack of nutrition or atrophy." In 1776 John Hunter put forth his theory, according to which sympathy figured largely in the process, and in which may be found the germ of the idea of atrophy by reflex action. In 1835 Nélaton insisted upon the importance of atrophy of the thigh among the signs of hip-joint disease. He stated that the arrest of development of osseous tissue was proportional to atrophy of soft parts, and that this was a rule to which there were very few exceptions. It is also observed, he stated, not only in spontaneous luxations, but in all those diseases that condemn a limb to prolonged rest. Thus he cited atrophy of the femur in the case of a necrosis of the pelvis. These ideas are elaborated in his great work (*Path. Chir.*, 1847, ii. 264).

In 1837 Curling published his "Remarks on Certain Forms of Atrophy of Bone" (*Med.-Chir. Trans.*, 1837, p. 336), in which he described a *concentric* and an *excentric* atrophy of bone. The former depends mainly on local causes, such as consecutive dislocations, caries, inflammations resulting from gunshot fractures, etc. He included here the bone in an amputation-stump, as well as the atrophy of ankylosed limbs. He speaks of *functional inertia*, and the influence of the central nervous system by which, in paralytics, healing of fractures is delayed. He shows how compression of the main artery supplying such organs as the liver, spleen, or kidneys, will lead to their diminution, and he considers at some length the atrophy of a bone-fragment broken from a main portion which contains the principal nutrient artery. The nutritive supply in such cases cannot be maintained, owing to the inextensibility of the Haversian canals; consequently the fragment slowly disappears. Under the head of excentric atrophy he deals mainly with osteo-malacia, which is a generalized process depending upon a constitutional condition.

Bonnet was alive to the importance of atrophic processes, and in his *Traité des Mal. des Articulations*, 1845, i. 217, he wrote: "Whatever the varieties which they present, according to anatomical conditions, chronic inflammations of the synovialis consecutive to mechanical injury engender always an atrophy, more or less marked, of the surrounding parts." In general this will be noted about the injured joint, but sometimes it extends further, and may affect an entire limb. But Bonnet was, perhaps, not the first, certainly not the only one of his day, to allude to atrophy as a significant accompaniment of chronic joint-disease. Malgaigne (*Anatomie Chirurgicale*, i. 166) directed attention to disappearance of the alveolar process when deprived of its teeth, to thinning of the cranial bones after trephining, and to atrophy of the ilium and femur after old and unreduced dislocations of the hip. Even for Malgaigne functional inactivity was the cause of diminished nutrition.

In 1845 Roux put forth certain noteworthy views (*Annales de la Chirurgie*, xv.), especially with refer-

[1] Read before the American Orthopedic Association, at Washington, D. C., September 23, 1891.

ence to atrophy of the deltoid in arthritis of the shoulder. For him the stretching of the muscle over a capsule distended with fluid was the sole and sufficient cause; an analogous condition occurring also at the knee.

Denonvilliers, in 1853, presented to the Société de Chirurgie, a boy of seventeen, whose right arm had been amputated ten years previously. At the time when he was exhibited there was a protruding necrotic stump, three centimeters in length. At the same meeting Guersant reported a similar case. He asked whether this was not due to a physiological elongation of the bone rather than to any fault in the operative technique. (*Bull. de la Soc. de la Chir.*, iii. 430.)

In 1858 took place another interesting discussion in the same society concerning the growth of amputation-stumps. (*Bull. de la Soc. de la Chir.*, ix. 450.)

Seeking a cause for this fact that in young subjects the bone frequently grows through the soft parts of the stump so as to perforate them, Marjolan attributed the longitudinal growth of the bone to "a certain degree of ostitis propagated from the upper epiphysis." This explanation, accepted by Broca, was denied by Chassaignac and Richet, who explained the relatively greater growth of the fibula in leg stumps to osteophytes developed at its extremity along with necrosis of the tibial end.

Humphry (*Treatise on the Skeleton*, p. 70) in 1858 called attention to the results of disease of bone. "If a limb be not used, the bones usually waste. . . . . These points are well illustrated by the conditions which the bones of stumps present when the limbs have long been amputated. In some the bones are cleared of their cancelli and reduced to a mere porous shell, the size remaining unaltered. In others they become much reduced in circumference, their walls retaining their proper density. In a third class the bones are small, and are also light and porous. In a case recorded by Larrey, of a man who died forty-one years after amputation of the arm near the shoulder, the scapula was as thin as paper, and the clavicle no thicker than that of an infant. I am *not aware* that a bone is *ever reduced* in length as a consequence of atrophy. If a part be disused by reason of paralysis or other cause, the bones may fail to attain their proper length; but, having attained it, I do not know that they ever lose it."

In 1859 Gosselin and Lejeune published important articles concerning muscular atrophy consequent upon fractures. They claimed that it always occurs in adults, the former reporting a case in which it existed ten years after the fracture. In children it is very much less common. Gosselin ascribed a more important part in producing atrophy under these circumstances to immobilization than to compression by bandage, and says: "the condition cannot be attributed to the surgical apparatus, but depends entirely on the primary affection." (*Gazette Hebdomadaire*, 1859, 130–64.

Coulon, in 1861 (*Traité des Fractures chez les Enfants*), speaking of fractures in children, says that perhaps "scrofula," that is "scrofula of bone," may, without producing caries, so weaken the osseous tissue by rarefaction as to predispose it to fracture. He says that he had never noticed muscular atrophy in children, perhaps because of the comparatively brief time in which their bones heal; but he fails to recognize that such periods of time are only relative. Referring to experiments made by Baizeau and Herpin concerning elongation of fractured bones, he says that he has not seen sufficient clinical proofs to permit him to acknowledge such a growth. The old subject once more came up before the Société de Chirurgie in 1884 (*Bull. et Mém.*, x. 521), when Kirmisson showed an amputation-stump in a lad of twenty, whose leg had been amputated when he was four years old. At the center of the stump was a bony projection, divided into two tuberosities by a transverse fissure. One of these belonged to the tibia, the other to the fibula, both having been fused together. Faraboeuf, while not rejecting Verneuil's views, suggested that such cases might be explained by a too rapid primary union with insufficient solidity of muscle and soft tissue, and that the condition might be prevented by causing the stump to heal by granulation. All agreed that in children amputation-flaps should be made exceptionally long.

To this peculiar atrophy affecting stumps Verneuil has given the name *physiological conicity*. He describes it (*Mémoires*, ii. 830) as occurring especially in arm and leg stumps; less often in thigh and forearm, because of lesser activity of the cartilages of the upper ends of the femur, radius, and ulna. He saw a large number of examples while distributing prosthetic apparatus at the Central Bureau of the Parisian Hospitals.

These statements of Verneuil's, if not founded upon the more elaborate explanations of Humphry, at all events corroborate them. It has been shown by Humphry (*Med.-Chir. Trans.*, xliv. 118) that the extension of the shaft takes place most quickly, and is most prolonged at the end where the bone can best bear the weakening consequent on the more rapid changes in the growing matrix; and that is usually the larger end. For instance, the lower end of the femur is larger, and is more favorably circumstanced for bearing weight and resisting muscular force than the upper end; and the ossifying processes are much more active, and are longer continued at the lower end than at the upper. In the

tibia the lower end is at a disadvantage in comparison with the upper, in consequence of its smaller size, the greater weight borne by it, and the violent shocks to which it is exposed from its closer proximity to the ground, and there is less growth here than at the upper end. In the upper limb the conditions are in many respects reversed, and growth is, consequently, more active at the upper part of the arm and at the lower part of the forearm.

Numerous other writers have alluded to the same condition. In one of Liston's cases the humerus projected in an extreme degree, and terminated in a hook-like process or exostosis. The latest contribution to the subject is by C. A. Powers (*Med. Record*, June 7, 1890, p. 641), who reports several instances.

But it is to the *Traité de la Régénération des Os* of Prof. Ollier that one turns with the greatest satisfaction for the experimental elucidation of this subject. Thus we find (i. 377) a long chapter upon the influence of irritation or of removal of various parts of bones upon their growth. After having established that the most common cause of hypertrophy of bones is irritation, he studies the causes of arrest of their development and their atrophy. Two factors come into play here: the destruction of tissue which may concern and favor their growth, and gradual failure in the evolution of such tissues. They necessitate a careful study of epiphysis, diaphysis, and conjugal cartilage, which Ollier has carefully carried out experimentally, and has shown that it is not by a precocious union of epiphyses to shaft that lesions of epiphyseal cartilage produce arrest of growth, but that the initial factor is arrest of proliferation of cartilage-cells. He has, furthermore, fully described the effect of fractures, of epiphyseal separations, of arthritis, and ankylosis in producing retractive tissue-changes. Mutilations of bone almost always produce arrest of development, which yet varies much according to whether the arthrodial or conjugal cartilages, the epiphysis, or the shaft have been most interfered with. Not only in the bone operated on do tissue changes occur. In the case of the forearm and the leg the parallel bone frequently undergoes alterations; sometimes this is in the direction of increase of thickness; that is, a compensatory hypertrophy, or, when one is pretty firmly fixed to the other, the more rapid growth of one forces it to assume a curve or some change of shape.

I have recently seen such alteration in the lower end of the fibula, apparently produced in the first place by a club-foot, upon the outer side of which the patient (a girl of sixteen) walked. Pressure upon the fibula being thereby removed and a certain tension produced by pull upon the external lateral ligament, while the whole weight was borne by the tibia, The result was that the lower three inches of the fibula assumed the exact shape of the arc of a circle of some ninety degrees.

So, for instance, after resection of the radius and ulna, the humerus, though not operated upon at all, ceases to grow with the same rapidity as does that of the opposite side; and, if the humerus alone has been attacked, the scapula on one side and the radius and ulna on the other are indirectly affected. These alterations are of a peculiar nature, and do not occur immediately; they take place by a gradual transition-state, during which they diminish in volume but increase in length. To this phenomenon, which he has most carefully studied, Ollier has given the distinctive name of *atrophic elongation*.

To the atrophic changes occurring in stumps, also, Ollier has paid great attention. But little has been said or written in this regard. Since the discussion in the Société de Chirurgie in 1858, alluded to, Humphry published two memoirs, and the more recent researches of Güterbock include nearly all the literature of the subject. Nearly everyone who has dealt with the subject has alluded to the atrophy which is most marked in connection with stumps that are nearly immobile; while the clinical fact was generally recognized, the interpretation remained for Ollier to enunciate. He lays great stress on the effect of *functional inertia*, and has sought to assign its correct position among factors. By observation and by experiment he came to the conclusion that function of a limb was a necessary stimulus to the growth of its skeleton. Suppression of this stimulus leads inevitably to atrophy of the part. This was but a systematic and comprehensive statement of generally-recognized facts.

In 1870 Boeckel published an interesting memoir concerning the effects of hip-joint disease in causing atrophy of the lower limb. He formulated these conclusions:

1. That arrest of growth is proportional to functional inactivity and atrophy of muscles.

2. That the bones are rarefied, and that active treatment, while shortening the course of the disease, acts also to lessen the extent of the atrophy.

3. That pelvic distortion (posture-deformities) tends to produce arrest of growth, exaggeration of the pressure transmitted through the femur, and atrophy of the muscles of the buttock.

4. That shortening affects the superior pelvic strait, but not enough to cause a serious obstacle to parturition (*Archives de Physiologie*, 1870–71, p. 435).

A thesis by Collette, in 1872 (*Thèse de Paris*, No. 182), marked an advance, since not only did he discuss the atrophy which accompanies certain forms of joint-disease, but he called attention to the increase of fatty tissue which often accompanies wasting of other soft parts. More than this, he

showed that curious atrophic freaks occur. Thus he cites a case of gonitis with wasting of both upper and lower limbs on that side, with great increase of fatty tissue, a notable enlargement of the breast, and a marked atrophy of the testicle on that side.

In quoting this case I am reminded of a case of my own, an amputation-stump in a young woman whose thigh I amputated seven years ago, when she was sixteen years old. The stump is now not conical, though it would be were it not that an overgrowth of adipose tissue makes it measure more in circumference than does the opposite thigh at the same height.

It was in 1873 that Reyher's careful study upon the influence of prolonged immobilization upon the joints appeared (*Deutsche Zeitschrift f. Chir.*, iii. 189). His microscopical studies of the various tissues implicated gave a peculiar value to his work. He never found any inflammatory phenomena, either hyperemia or tumefaction. Consequently, the atrophic changes of the adult or aged are merely a degeneration not caused by inflammation.

Sabourin, during the same year (*Thèse de Paris*, 1873), introduced a novel theory to account for the atrophies which accompany articular rheumatism, particularly those which one encounters about the shoulder in the deltoid, according to which it was due to irritation of the peri-articular fibrous tissue. To confirm this view, he pointed to the extreme soreness in muscular origins and insertions; in other words, to the extreme tenderness of masses of fibrous tissue in the neighborhood of any rheumatic lesion. Duchenne, in particular, has described an atrophic form of deltoid rheumatism, to which Sabourin quite eagerly applies his explanation.

It was not long before confirmations of Ollier's studies began to appear. Haab, in 1875, published a brochure, in which he corroborated Ollier's views concerning the normal growth of bone, and then he mentions pathological elongation after fractures, ostitis, and arthritis, and gives some of the cases reported by German surgeons. Assigning a secondary rôle to inertia and immobilization, he lays the principal blame upon the epiphyseal cartilage. For sympathetic elongation of the femur it is enough to have an irritation of the tibia sufficiently active and lasting. Failure of pressure upon the joint is a sufficient reason in his estimation, and he proposes to substitute the expression *elongation from lack of pressure*, for Ollier's term, atrophic elongation. Haab fails to apprehend how atrophy can produce elongation. He would account for many of these bone-changes by sympathy between femur and tibia, for instance, so that one is lengthened or shortened when the other is pathologically elongated, all of which, says Mondan, while criticising these expressions, is rather incomprehensible.

During the same year appeared the essay of Güterbock (*Arch. für klin. Chir.*, xvii. 584), in which he attributed the bone atrophy of an amputation-stump to an irritative action, the evidence of which he found in the occasional presence of osteophytes, and of other tissue alterations, such as the subperiosteal development of giant-cells, as described by Rusticzky. He considers these to be the results of functional inactivity in subjects of various ages and conditions. The experiments of Milne-Edwards, published fourteen years previously (*Annal. des Sciences Naturelles*, 1861), may have some bearing in this connection, as they appear to have in the thesis of Teissier (Paris, 1875). If we deprive animals (birds) of food containing calcareous elements, the volume of their bones diminishes, but their composition does not vary. At the end of three months the bones of such animals will weigh a third less than those of one normally nourished, but analysis would show no change.

Fifteen years ago Sir James Paget made these remarks in one of his published clinical lectures (*Lect. IV.* p. 208), speaking of wastings of limbs near affected joints: "This wasting occurs quickly in nearly all acute inflammations of joints; more slowly in the chronic inflammations. In the chronic it may be from disuse alone; in the acute it is not so, for it is much more rapid and extensive than in any cases of mere disuse. Compare, for instance, cases of fracture of the thigh with those of acute disease of the hip, and you will see how much greater is the wasting with acute disease than with disuse alone. Rapid wasting may be seen in the whole lower limb, especially in the thigh and the nates, in all acute hip-joint diseases; more slow wasting in the painless scrofulous diseases; less still in the chronic rheumatic. Wasting in the lower part of the anterior and lateral muscles of the thigh is quickly apparent in acute knee-joint disease; only less quickly in the chronic. . . . . It is, I repeat, not a mere wasting from disuse; it is far more rapid than that, more like what has been called acute atrophy of muscles, such as may often be seen in the swiftest cases of infantile paralysis. . . . . It seems dependent on disordered nervous influence, and often appears proportionate to the coincident pain, as if it were due to the disturbance of some nutritive nervous center, irritated by the painful state of sensitive nerve-fibers."

Two years later appeared Valtat's excellent thesis (*De l'Atrophie musculaire consécutive aux Maladies des Articulations*), which contained the following conclusions:

1. Most joint-diseases react energetically upon the nutrition of the muscular system.

2. Very early in such cases one sees a notable atrophy with paresis, more or less accentuated, of

certain muscles, particularly those pertaining to the affected joint.

3. This atrophy is not the result of functional inertia, or of inflammation of muscles, nerves, or cord; in all probability it is produced by the same mechanism as the other reflex phenomena.

4. It is a matter of no small importance; it increases usually *pari passu* with the joint-lesion, and remains, in the vast majority of cases, after this has recovered.

5. Its duration is commonly long, and is shows no tendency to spontaneous disappearance. Sometimes the muscles recover themselves by exercise, but by no means always.

6. They improve much more rapidly under the use of the continued current, or better still under the combined usage of both currents.

The clinical phases of the subject were excellently presented by Berguien (*Thèse de Paris*, in 1877) the same year. His was the first work in which the relations between the development of the bones along with their superimposed muscles were clinically discussed. Studying fifty-nine cases of hip-disease he demonstrated that there is always atrophy of the limb in these cases, and that it pertains to the bone as well as to the muscles, especially in very young patients; that the bone-atrophy is most marked about the joint where the effects of pressure would naturally be greatest, and that it is itself due to atrophy of bloodvessels; that deficiency of nutrition can be demonstrated by the thermometer; and that in those rare cases in which atrophy does not appear one may impute the fact to a coxalgia, coming on after the eighth year, when the subjects are very courageous and seek to keep the limb in active service.

In 1877 and 1878 Helferich published memoirs of considerable importance (*Archiv. d. Phys. und d. Anat.*, Mai, 1877, and *Deutsche Zeit. f. Chir.*, 1878, x. 324). He had demonstrated by numerous experiments, and as opposed to the views of Wolff, the exclusive rôle played by the conjugal or epiphyseal cartilages in longitudinal growth of long bones. This he did by excising them from growing young animals, and noting the failure to grow. In his second paper he studied the disordered relations that exist between necrosis and the coefficient of growth of various bones; he takes up the question of the frequency of inflammation in the different parts of the same bone, and after showing that it is in the vicinity of the cartilages that it occurs most commonly, he finds here the verification of his experimental work.

Passing by a number of brochures in which appeared nothing of great importance, De Clerville republished in 1880 (*Thèse de Paris*) a remarkable case of nearly total disappearance of the humerus, first broken at the age of eighteen, and twice after that. Only the superior and inferior epiphyses were left, and these were represented by small pieces. The patient died at the age of fifty-two, and the muscles of the arm presented a remarkable atrophy and fatty degeneration. Similar cases are of course reported in the work of Béranger-Feraud, but a case of this completeness or intensity is perhaps unique. It must be attributed largely to the influence of repeated irritations upon the vitality of the callus.

Lataste (*Thèse de Paris*, 1881) propounded in 1881 a novel explanation of the muscular atrophy following fractures. For him it depended not on immobilization, or compression, or lesion of nerve-fibers, but upon a certain degree of myositis, which was evidenced by local elevation of temperature.

In 1882 Segond (*Rev. de Chir.*, Août et Sept.) described a diminution in the caliber of the vessels in amputation-stumps or curtailed limbs. This is never consecutive to muscular atrophy, but sometimes precedes, sometimes accompanies it; and is, according to Segond, a very important contributing factor.

The causes, then, so far as generally ascribed, which lead to atrophy of parts, may be thus rehearsed:

a. Functional inertia.
b. Inequality or defect of nutritive supply.
c. Inflammation.
d. Something in the general condition.
e. Trophic-nerve disturbance.

These have been thus arranged by Mondan.

Within the present year Duplay and Cazin have published (*Archives Générales de Médecine*, Jan., 1891) the results of certain experimental researches into the nature and origin of muscular atrophies following diseases of joints, stating that of all the various theories advanced to explain atrophy of muscles following joint-lesions the "reflex" theory of Vulpian has found the most general acceptance, *i. e.*, changes originating in the irritated terminations of the articular filaments. This theory explains the rapidity of onset and the absence of the reaction of degeneration, either in the cord or in the large nerves. In their researches acute arthritis of the knee was produced by the injection of tincture of iodine or nitrate of silver, or by the actual cautery. In four or five days an appreciable diminution in size of muscles was invariably noticed; in eight or ten days they had become soft, and the atrophy steadily progressed until about the fifteenth day, when it either ceased or progressed much more slowly. The animals were killed at intervals up to the thirtieth day, when the various muscles of the healthy and affected limbs were carefully weighed. The loss of weight amounted in some cases to 50 per cent. Microscopic examination of the nerves of

these limbs shows that no lesion is usually present in the large trunks or in the motor filaments, but in articular nerves characteristic changes were constantly present. These changes are partly degenerative and partly inflammatory; they never show signs of spreading upward along the nerve-trunk, and no ascending lesion, such as has been described after amputations, could in any case be discovered, nor were there any alterations in the spinal cord, or nerve-roots, or ganglia.

The authors consequently deduce the following two conclusions: 1. That the muscular wasting following muscular lesions tells of a simple atrophy. 2. That this atrophy can be explained only by reflex action through the spinal cord, produced by the irritation of the terminal filaments of the articular nerve.

This appears to summarize fairly well the valuable literature of the century concerning an important topic. Such special attention as the writer had intended to devote to a further elucidation of Ollier's views on *atrophic elongation*, and a summary of his experimental work, will have to be postponed to another occasion, and made the topic for another communication.

EPILEPTIC INSANITY: ITS ETIOLOGY, COURSE, AND TREATMENT, BASED ON THE OBSERVATION OF ONE HUNDRED CASES.[1]

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IN speaking of epileptic insanity, I would follow the definition of W. Bevan Lewis, given in his late work on *Mental Diseases*, viz.: "that form of mental derangement in the antecedent history, oncome, and further development of which we recognize an intimate connection with the epileptic neurosis." The distinction between epilepsy and epileptic insanity is often difficult, if not impossible, since, pathologically, we have the same ill-defined conditions present in each; and, as Lewis has well said, the question must often be asked in an asylum why such a patient is confined. Indeed, we find many in whom epileptic seizures occur only at rare intervals, and of whom the condition in the interparoxysmal state is apparently normal, but who during the paroxysms are maniacal, melancholic, and demented.

In our study of epileptic insanity we must proceed on the same lines as in that of the neurosis. We may, in fact, consider the insanity as a mental condition to which all epileptics are liable, and, while mental impairment is often not present in many cases during the intervals between the attacks, yet, from experience, I am inclined to think that it is more usually present than generally stated, because, while some examples of even great mental brilliancy may no doubt present themselves to the experience of all, the great majority show evidence of mental deterioration. The character becomes more or less brutal—even the face shows loss of the finer elements—and the emotional state, at least, becomes very unstable, making the individuals uncertain, impulsive, and usually suspicious. The most important element in epilepsy is the disturbance of the consciousness, especially when sudden in its onset. It stands out as the real diagnostic symptom of the disease. This indicates essentially an affection of the cortex of the brain, to which, if we are to discover its pathological basis, future study must be directed. The convulsions are of secondary importance, as they may be due to various irritative lesions of the brain, which may cause the same characteristics and distribution of the convulsions as occur in epilepsy, and yet have none, or few, of the peculiar mental disturbances seen in epileptic insanity. In fact, in cases of epilepsy of the so-called *petit mal* type, without convulsions, mental derangement is more common, and the prognosis is worse than in the *grand mal* type.

All forms of insanity have certain varieties of symptoms in common. In the first place, there is always a change in the personality; the relations of the individual or *ego* to the outer world are altered. There is always a concentration of the attention on the *ego*. We next observe some change in the feelings, thoughts, and actions, and usually first in reference to the feelings, which may be manifested by exaltation or depression; later, as a rule, in the thoughts, as represented by hallucinations, illusions, and delusions, these latter often arising in the attempt of the patient to explain to himself the reason of his changed emotions and altered relations to his surroundings. The last condition, as referred to the field of action or volition, is a natural outcome of the preceding, as thought cannot be known to exist without its expression in some act. The only other condition common, sooner or later, in insanity is dementia, which, when complete, represents a total abolition of the expression of the functions of the mind. In epileptic insanity we have all these functions more or less involved, and while each case differs from the others, yet in the aggregate certain well-defined characteristics stand prominently out. These may precede or follow the epileptic seizures, or even take their place, as in the *petit mal* form of epilepsy. In the study of this subject it is, therefore, necessary, in each case to get as full a description as possible of the premonitory

[1] Read before the N. Y. Co. Med. Soc., May 25, 1891.

symptoms preceding the paroxysm, of the paroxysm itself, and of the post-paroxysmal symptoms, as well as the condition between the seizures. As we shall see in our summary of the hundred cases that I have investigated for this paper, the premonitory symptoms may exist for a considerable time before the epileptic convulsion occurs, for hours, days, or weeks, and may assume the form of restlessness, illusion, delusion, or even sensory disturbance, so that one acquainted with the patient may be able to prognosticate an approaching seizure. The aura of epigastric discomfort is the most common, and the onset of the attack is usually very sudden, no warning, or one of but short duration, being the rule. On entering an epileptic ward it is not uncommon, if one patient has an attack, to see several instantly fall with the suddenness of an explosion.

In the study of my cases it has been very difficult to obtain any reliable previous history. A history of heredity—by which I mean either insanity or epilepsy in the parents or immediate family—was obtained in fifteen cases. Echeverhia places it at 28 per cent., while Reynolds puts it as high as from 31 to 53 per cent. Phthisis was present in the parents in seven cases. In the male cases, alcoholism—that is, excessive use of liquor—was given as the cause in nine cases; none in the females. Shock was noted in six cases among the females; insolation in three cases in the men; trauma in three cases in both the males and females. The history of epilepsy from childhood or infancy was given in twelve cases in the women, and nineteen in the men, with an indefinite account of a fall in some cases. Upon examining the cases with reference to the exciting causes of the seizures, in the sixty cases of women, the menstrual period in sixteen cases was either the only time of their attacks, during which they often were very frequent (in one case 100 attacks occurring in six hours), or they were increased at these times. A premonitory stage or pre-paroxysmal period was more frequent in the women, as shown by restlessness and irritability, existing often for days. A definite aura was rare: In the forty male cases its existence was only recorded in seven cases, and in three cases among the women. Those given were of the epigastric character, except in the case of one woman, who always complained of a sore throat, after which she became maniacally violent, requiring restraint. These figures are not perfectly accurate, but the dementia of many of the cases rendered it impossible to obtain more exact histories. It, however, approximates the general statements of the suddenness of the onset of the attacks in the epileptic insane. The character of the seizures is the same as in the neurosis, except that they are rarely unilateral. The mental condition following or preceding a seizure, and in the intermediate state, is what characterizes the disease. Masked epilepsy, or *epilepsie larvée*, in which mental derangement takes the place of the epileptic seizure, was not present in any of my cases, although attacks of *petit mal*, with excitement or depression, were not uncommon. The number of attacks varied from one to thirty a month, in the women seeming to be frequently increased at the menstrual period, and in most cases were both nocturnal and diurnal, rarely being limited to one or the other period. The attacks were usually both of the *petit mal* and *grand mal* type, the latter being only referred to in the number of attacks per month recorded. Mania or violence with assault, usually following the attacks, was present in fourteen cases of the women, and in twelve of the men; homicidal mania was recorded in nine cases of the women; melancholia, with suicidal attempts, was present in thirteen cases of women, while it was comparatively rare in men. Delusions of persecution were not uncommon, especially in the women; hallucinations were rare. Religious ideas of an emotional character were present in eleven male cases. What has been termed "religiosity" was very common among the women. Fully 50 per cent. were demented, and during the periods between the seizures many others on the slightest provocation showed great irritability. Perhaps no class of patients presents such sudden and violent outbursts as the epileptic insane, who, on coming out of a convulsion, often attack the nearest person; or after a mild seizure, perhaps under the influence of some delusion of persecution or fear, attempt to kill themselves or others. It is not unusual for them to associate the physician or nurse as the persecutor, or as one who has attempted to poison them, and they may under this delusion refuse all medicine or food. One marked symptom in most of these cases was the absolute unreliability of their statements; accusations of cruelty on the part of their attendants, and statements of being starved, are of frequent occurrence, often leading to investigation. In one case, a woman, after an attack, violently assaulted another equally irritable patient, and in the efforts to restrain her a bruising and discoloration of the arm was occasioned. She complained that she had been brutally treated and half-starved—an example of the untruthfulness of many of these patients. Fortunately, sufficient testimony was obtainable to disprove the first statement, and her generally well-nourished condition refuted the latter.

We have, as we see in the record of these cases, the physical and the psychical side, and it is the latter that principally interests us. The disease, then, represents a psychical entity, the chief characteristics of which are: (1) Irritability, as shown in excessive mental instability, often of a religious or erotic type;

(2) periodical attacks of mania or melancholia, with or without convulsions, accompanied by delusions of persecution, and a marked tendency to impulsive acts, rendering the patients dangerous to themselves and others; and (3) an early or late dementia.

The duration of the disease as revealed by these cases is interesting, as showing its chronic course, the longest being forty-four years, and the majority extending over from ten to twenty years. Most of them, also, had been epileptic for a number of years before their admission.

My paper was intended to be a clinical report of the cases that have come under my observation, and I shall not, therefore, go into the pathology. I would like, however, to refer to the investigations of Bevan Lewis in his late work, in which he claims to find degeneration, especially involving the small pyramidal layer of cells in the cortex of the brain, and consisting of fatty degeneration of the cell-nucleus with later changes, causing vacuolation. The cortex of the brain is certainly the seat of the pathological changes in epilepsy, and it is to it, as I have previously said, that we must direct our attention in our future studies.

Clouston states that epileptic insanity is not so common among women as in men, and does not respond so readily to treatment by the bromides. One feature—suicidal impulse—seems to have been quite frequent in my cases, and especially among the women. This is not common, according to Clouston and Cullerre, although both writers recount several cases. One peculiarity is the similarity, and even the exact reproduction of the same class of symptoms in each attack. In the case of the woman whose seizures always commenced with a complaint on her part of pain or soreness of the throat (which on examination revealed no local signs of disease), she soon after falls in a fit, and her first act on partially recovering consciousness is to attack the nurse. Of this she has afterward absolutely no knowledge. The attacks have always followed this course for the past three years. Automatic action is not rare, although only observed in one of the cases in which the patient after the attack always attempted to hide herself under the bed. In this case, associated with dementia, it was impossible to discover that any delusion prompted her to the act. In a case under outside care the patient would carry out various business transactions, receiving money, and paying it out, only later to find herself in her room without the slightest recollection of the acts performed.

As shown in the study of these cases, the prognosis is unfavorable. Under proper care, however, much improvement can be achieved. It is certain that the routine of asylum life, with the regular occupation, exercise, and uniformity of diet, has a favorable influence. The bromides given in sufficient doses will diminish the frequency of seizures very considerably. In the maniacal seizures, hyoscyamine, with or without morphine, hypodermatically, is to be recommended, or chloral in large doses during the periods of excitement, and especially is this advisable at the menstrual periods. As in epilepsy, the patient should be kept constantly under the influence of the bromides, except in cases in which the attacks occur only at long intervals; and while the administration of the bromides and chloral cannot prevent the attack at the period of its onset, it is advisable following the seizure, so as to insure or prolong the tendency to sleep that follows the exhaustion consequent on the explosion of nerve-force. Clouston states that he was able to reduce the attacks to one-sixth of their usual number, while the nervous and mental irritability and tendency to violence were also diminished. My personal experience has convinced me that the bromides, when sufficiently diluted, are well borne, and that the tendency is to bear them better as the length of time of administration increases. In only a comparatively few cases did evil results ensue. After many trials borax has failed in my hands. Nitro-glycerin, in conjunction with the bromides, especially in the *petit mal* type, is certainly of service. The diet should be a mixed one, and while restricting the consumption of meat I have not found it of advantage, either in hospital or private practice, to cut meat off altogether. Occupation, physical and mental, is of great importance. The patient's time should be employed. Operative interference, unless a definitely localized lesion can be diagnosticated, is not warrantable, and even in such cases other changes have occurred, if the course of the disease has become chronic, that render any likelihood of improvement improbable. Since the foregoing was written one of the patients in the list has been operated on, and I will incorporate his history:

A., thirty years of age, received an injury at the age of two years, on the right side of the head, over the motor area, since which time he gives a history of epileptic seizures, commencing on the opposite side, and becoming general. Examination reveals a marked depression in the skull, over the motor area, some paresis of the left upper and lower extremities, with exaggerated reflexes. The attacks occur almost daily; the patient is partially demented, and given to excessive masturbation. The operation consisted in the removal of a large area of the skull. The dura, pia, and cortex appeared normal to the eye, although the pulsation on this half of the brain seemed somewhat restricted. The patient made a good recovery, and his general health seemed improved. The attacks were at first reduced in number, but later resumed their usual frequency. The

only change observed was that the patient became very religious, constantly reading his prayer-book, and also inclined to steal anything he could lay his hands on, without regard to its value or usefulness to himself. These latter symptoms, of themselves so very common among epileptics, had not previously been observed.

It would seem, then, that the mental deterioration had been hastened rather than checked. Notwithstanding the failure in this case, I would indorse the operation in children, especially in cases of cerebral hemiplegia with epilepsy and imbecility. I believe that the earlier the operation is performed the greater is the chance of improvement, especially in cases in which the disease is due to cerebral compression from a tedious or forceps delivery, or following an injury, or after the exanthematous fevers. This is a new field, and the results so far have not been very favorable, but the generally hopeless character of the cases warrants considerable experimental investigation, based of course on scientific grounds.

I do not suppose that any new statement has been made in the record of these cases, and their interest lies chiefly in the observation of so many, with an attempt at classification of the mass of symptoms that they presented.

WHO CAN BE MEDICAL EXPERTS?

BY HENRY A. RILEY, ESQ.,
OF NEW YORK.

THE importance of medical evidence is acknowledged by all writers on jurisprudence and by everyone who is conversant with the profound problems that often come before courts of justice for solution. The trustworthiness of much of the so-called expert evidence that is brought out, even in the most famous trials, is not, however, so apparent and so readily acknowledged.

There is no doubt that a strong prejudice exists among the members of the bar and the judges themselves against such evidence, and the public press frequently expresses the contempt which the common people have toward this kind of evidence. Even among physicians themselves it seems certain that there is great dissatisfaction with medical expert evidence as we see it exemplified to-day on the witness-stand.

Some of the adverse opinions expressed by judges are ill-considered and unjust in the extravagance of their condemnation; but the statement of Justice Grier of the United States Supreme Court is no doubt held by many others. He says: "Experience has shown that opposite opinions of persons professing to be experts may be obtained to any amount; and it often occurs that not only many days, but even weeks, are consumed in cross-examinations to test the skill or knowledge of such witnesses and the correctness of their opinions, wasting the time and wearying the patience of both the Court and the jury, and perplexing instead of elucidating the question involved in the issue." Justice Stephen, whose recent retirement from the English Bench has deprived it of one of its most learned judges, gave utterance, in the celebrated trial of Mrs. Maybrick, to one of the severest criticisms of recent years. He even flippantly quoted the old saying which described a doctor as "a man who passed his time in putting drugs, of which he knew little, into a body, of which he knew less," and said that the fact that a learned man came into court and "swore to this, that, and the other, did not by any means give a reason for unqualified belief in what he said."

On the other hand, many judges have expressed their high opinion of the great help afforded courts and juries by the carefully considered and impartial statements of scientific experts, who have a thorough knowledge of the technical points involved, and no less an authority on evidence than Best has given his opinion as follows: "It would not be easy to overrate the value of the evidence given in many difficult and delicate inquiries, not only by medical men and physiologists, but by learned and experienced persons in various branches of science, art, and trade."

In fact, it would be impossible for juries to give any intelligent verdict in many civil and criminal cases if it were not for the clear and convincing testimony of medical experts. Take, for instance, the recent trial of "Frenchy" in New York City for the murder of the woman called "Shakespeare," in which it would seem that medical expertism had shown a decided advance. In this case the conviction very largely hinged upon the chemical analysis of the contents of the woman's stomach and intestines, and the comparison with scrapings from the clothes and fingers of the accused man.

There is clearly no doubt that scientific witnesses will be required in the future, as in the past, for the elucidation of doubtful technical points, and it becomes a very important question to know who can be received as medical experts. Such persons have had a recognized position in the English witness-box for hundreds of years, and it was the eminent jurist Coke who pronounced the judgment, *Cuilibet in sua arte perito est credendum.* The propriety of this prohibition to all who are not skilled in their profession has been abundantly verified in the course of litigation since his time, and the ignoramus or the charlatan that ventures to air his opinions only brings disgrace on himself and his profession. Dr. Elwell, in his well-known work on *Malpractice, Medical Evidence, and Insanity*, says in regard to this matter: "While but little, compara-

tively, is expected of timid ignorance or weak and trembling inexperience, much, very much, is rightfully required and looked for from the learned and public man. If the former are able to command presence of mind and language sufficiently intelligible to be understood, it is as much or more than is expected of them. Not so, however, with the man of public and professional pretensions. He is measured properly by a different and more exact and rigid rule. If he fails to furnish good measure, he will most certainly leave the stand disgraced, and his friends chagrined and disappointed. There is no situation, perhaps, where the professional medical man can be placed wherein he will be subjected to a more thorough, rigid, and severe criticism as to what he says, how he says it, and the reason why he says it, with all the influences that may have a bearing on what he says, than as a medical witness in a court of justice, under the eagle eye of an able judge, the severe and interested scrutiny of counsel, and the candid and impartial observation of a jury. This is not only forcibly true as to the position of the medical witness, but is almost savagely so. On the one hand, the party by and for whom he is called seems to expect that he will say nothing that will damage him; that the weight of his character, professional reputation, position, influence—everything will all go to favor his interests; while, on the other hand, this very weight of character, influence, etc., will arouse the resisting energies of the opposite party to contradict, break down, and destroy the effect of such testimony. An important witness thus placed between two fires, as it were—a conspicuous mark as he is—will do well if he comes off without being badly wounded."

The very title of expert seems to demand superior knowledge and a practical experience in his chosen profession, but courts have not always insisted on the possession of both practical and theoretical knowledge as a preliminary to giving testimony. A person may make himself competent to testify as an expert who has gained a special knowledge of the particular subject under investigation by the reading and study of standard authorities, and not from experience and actual observation. The expert must be educated by the science of medicine, but his knowledge may have been obtained by study without practice, or by practice without study, if that is possible. In other words, unless there is a statute in the particular State to the contrary, the expert has only to make his knowledge evident, the source from which it was obtained not being material.

The rule has been broadly stated as follows: "It is not necessary that he should be a physician or have studied for one, nor be a graduate, nor one licensed to practice, nor need he have been a practitioner" (Rogers on *Law and Medical Men*, p. 111). This general rule has been somewhat modified by decisions in the various States. In Vermont (Fairchild *vs.* Bascomb, 35 Vt., 410) it has been held that mere education as a physician, without some practice as such, is insufficient to qualify one as an expert, and in Arkansas (Polk *vs.* State, 36 Ark., 117) competency must be shown both from study and experience. In New York (Roberts *vs.* Johnson, 58 N. Y., 613) a physician not in active practice at the time may give expert evidence, but this fact will tend to affect his credit. In general, it may be said that a person who has not become a physician by the ordinary methods of graduation and licensure, or who, not being a physician at all, attempts to give expert evidence, will have little weight given to his testimony, even though he may gain admittance to the witness-stand. A person cannot qualify himself as an expert in a particular case merely by devoting himself to the study of authorities for the purposes of that case, when such reading and study is not in the line of his special calling or profession, and is entered upon to enable him to testify in the case.

An illustration of the rule that the expert need not be a physician is seen in a California case (*Re* Toomes, 54 Cal., 575), where a priest who had made a special study of physiology and psychology in order to be able to judge of the mental conditions of the communicants in his Church, and had experience daily in this way, was allowed to give an opinion of the mental state of a woman whom he had attended in her last illness.

The cases are rare, however, where a person who has not passed through a regular course of medical training is allowed to testify as a medical expert, and few lawyers would venture to place such a person on the stand, knowing what a merciless attack would be made upon him by the opposing counsel, should it appear that the so-called expert had not received the best instruction on the subject he claimed to give information about. So decided is this tendency toward requiring the most comprehensive knowledge on the part of the expert that specialists are usually called when a particular point in medical science is to be elucidated. This is not, however, a necessary requirement, as general practitioners are assumed to have sufficient knowledge to testify upon questions that are strictly and legitimately connected with their profession. Thus, one not an oculist can give an opinion in regard to injuries to the eye (Castner *vs.* Sliker, 33 N. J., 97), and one not an alienist can testify in regard to insanity (State *vs.* Reddick, 7 Kan., 143).

If the witness is not a specialist, however, his opinions will be received with less weight than if he were an acknowledged authority in the more limited

branch of medical science. There are some decisions that trend in the opposite direction, but they are not numerous, and show that special circumstances served to sway the court. Thus, in Vermont, a physician who for more than thirty years has devoted his attention almost exclusively to the treatment of insane persons cannot be permitted, as an expert, to testify to the mental capacity of a person not previously insane, but in the last stages of disease (Fairchild *vs.* Bascom, 35 Vt., 398). In Massachusetts a physician who has not made the subject of insanity a special study, and who, when his patients require medical treatment for insanity, is in the habit of calling on a physician who makes insanity a specialty, or recommending the removal to an insane asylum, is not competent to give an opinion on a hypothetical case put to him (Com. *vs.* Rich, 4 Gray, 335, 337).

When the question of the possession of special knowledge sufficient to entitle a person to testify as an expert is under consideration, the standard of qualification required by the court will vary in different localities. Thus, in a case tried by a judge in a country district distant from the large cities, the same high standard of special knowledge would not be required as in the cities of New York or Philadelphia. An interesting case involving this point was decided in Iowa over ten years ago, and merits quoting quite at length. In this case the defendant was charged with poisoning his wife by means of strychnine, and the judgment of the court was as follows: "Two physicians were called, and testified as to the tests applied in the chemical analysis made of the stomach of the deceased, and also of the tests usually applied for detecting the existence of poison in such cases. Both of them testified that they were practising physicians. One of them stated that he was not a professional chemist, but understood some of the practical details of chemistry—that portion at least which pertained to his profession—that he had no practical experience in the analysis of poisons until, in connection with Dr. Francis, he analyzed the contents of the stomach of the deceased; that since that time he had conducted experiments on a small scale; and that he was previously acquainted with the means of detecting poisons, and had since had some experience in that way. The other testified that he was not a practical chemist; that he did not follow the science as a profession; that he understood the chemical tests by which the presence of strychnine can be detected; that he professed to understand the principles of chemistry as laid down in the books on that science; that he never experimented with a view to detect strychnine by chemical tests; that he had seen experiments by professors of chemistry; and that there was one test much relied on, the trial of which he had witnessed. Defendant objected to these witnesses as incompetent, and now urges that they did not show themselves possessed of the requisite professional skill.

"We think they were competent witnesses. It is, of course, desirable that great caution should be exercised in conducting experiments of this character, and that the most skilful professional aid should be secured. If conducted, however, by such as have not had experience, or by those who, though not practical chemists, give their opinions from knowledge derived from the books upon that science, such opinion would be entitled to less weight than if given by a practical chemist—he who bases his conclusions upon experience as well as books. The means of knowledge are proper to be considered by the jury, and they should give or withhold credence in the opinion given as they may believe the expert qualified to speak more or less intelligently and understandingly. But to say that none shall be permitted to give their opinions except those of the highest professional skill, or those who have given their lives to chemical experiments, would, in this country at least, render it impossible in most cases to find the requisite skill and ability."

In a case decided in Alabama (Washington *vs.* Cole, 6 Ala., 212), a physician stated in his deposition that he attended a negro "as a physician," and it was held that this was sufficient evidence that he was a physician to warrant the admission of his opinions in evidence regarding the disease of the negro.

An important point for consideration is how the question of the possession of sufficient knowledge to entitle a person to testify as an expert is to be decided.

This is a matter of fact to be decided by the judge, and not by the jury, and such decision will not be interfered with on appeal, except in a clear and strong case (Lorg *vs.* First German Congregation, 63 Pa. St., 156; Hills *vs.* Home Ins. Co., 129 Mass., 544–551).

If the proposed expert is not able to establish the fact of special knowledge or skill, he will not be allowed to testify, and the court may personally examine such witness in order to ascertain his qualifications, or may hear evidence on the point (Lester *vs.* Pittsford, 7 Vt., 161; Boardman *vs.* Woodman, 47 N. H., 121; Davis *vs.* State, 35 Ind., 496).

In one case in Indiana (Forgery *vs.* First Nat. Bank, 66 Ind., 123–125) the Supreme Court said: "We find no test laid down by which we can determine with mathematical precision just how much experience a witness must have had, how expert, in short, he must be, to render him competent to testify as an expert."

The court must exercise a fair discretion in de-

ciding on the qualifications of an expert, and from such a decision there is no appeal.

The courts do not allow the point that an expert belongs to a particular school or system of medicine to have weight in deciding his right to testify. The law does not recognize any single class of practitioners as alone entitled to be called "physicians," but all are equal (Corsi *vs.* Maretzek, 4 E. D. Smith, 1).

TRACTION AND FIXATION IN POTT'S DISEASE.[1]

BY REGINALD H. SAYRE, M.D.,
OF NEW YORK.

ONE of the fundamental principles in the treatment of all joint-diseases is, so far as possible, to secure the absence of traumatism. In the spine, traumatism may be caused, first, by movements of the diseased parts; second, by the weight of those parts of the body, when erect, that are above the point of disease; third, by jars, when walking; and last, by the reflex muscular spasm common to joint-disease wherever situated. This muscular spasm is an effort on the part of Nature to secure rest for the diseased joint, and when an apparatus, or the surgeon's hand, or any other means secures this rest, this reflex muscular spasm disappears. The care shown in the gait of patients with Pott's disease, and the frequency with which they support the weight of the upper part of the body by resting their hands on the seat of the chair, etc., point most clearly to the necessity of relieving the diseased spine from the superincumbent weight, and protecting it as far as possible from concussion.

Pott recognized the necessity for preventing concussion, and removing the weight of the upper part of the body, but the rest in bed that he advocated, though certainly very beneficial, gives but very imperfect rest to the diseased spine, as it does not prevent motion, or abolish reflex muscular spasm.

The addition of a posterior splint of metal or other material, fastened into position by straps around the shoulders, and an apron across the chest and belly, more or less completely prevents movement of the diseased joint, but is defective in not supplying traction to overcome the ever-present reflex muscular spasm. Another objection to this class of splints is that the trunk must be so tightly girdled, in order to give rest to the spine, that respiration is greatly impeded, and, in consequence, the nutrition of the patient suffers.

Pain is to my mind a symptom of irritation, and the relief of pain is a good index of the removal of the source of irritation. The means that gives the greatest freedom from pain most thoroughly removes the source of irritation and puts the patient in the best condition to recover.

In all joint-diseases, traction, in my experience, is a great reliever of pain, and I consider it a mistake to disregard it in the treatment of Pott's disease. I frequently see children insist on keeping the straps of their jury-mast so tight that it is very difficult to prevent galling of the chin and occiput from constant pressure, and yet these children beg to have their straps fastened again when they have been loosened to bathe the head, the pain caused by these chafes being so much less than that caused by the irritation of the spine when the traction is diminished. I have seen these same children, later on, when the inflammation of the spine was less acute, ask to have the straps of the jury-mast loosened, and, still later on, ask to have them removed altogether, the necessity for employing traction having passed by.

A patient of mine, an adult of great intelligence, with lumbar Pott's disease, who was confined to his bed for eighteen months prior to the application of a plaster-of-Paris jacket, has often spoken to me of the relief afforded by stretching his spine. I have seen him drive over rough pavements in his jacket, without the least pain, at a time when he was obliged to use the utmost caution in movement in bed with his jacket off. Some of the jackets I have made for him have failed to give relief, as they did not lift up the thorax sufficiently to protect the diseased lumbar spine, though they were adequate to prevent motion. He says that he is not comfortable unless the trunk rests in the jacket, and the weight is thus transmitted to the pelvis, without pressing on the diseased part of his spine. I cannot help thinking that the more effectually we remove the weight from the spine in all cases, the more efficiently we have protected the patient.

It is because they act by lifting off the superincumbent weight more effectually than other means that I prefer jackets passing completely around the body, to posterior supports, which act merely by preventing motion, and do not diminish concussion or lift off superincumbent weight, unless they are provided with jury-masts. Those that are provided with the latter are almost invariably defective in having no base of support on which the splint may rest, and are prevented from slipping down, when traction is made on the head, simply by the friction of the splint on the body. This friction is distributed both above and below the point of disease, and thus adds to the pressure made on the diseased point, which becomes greater in proportion to the extent to which the straps of the jury-mast are tightened. In a badly-fitting plaster-of-Paris jacket the same trouble appears, and I have seen numbers of plaster jackets the jury-masts of which were fitted with

[1] Read before the American Orthopedic Association, Washington, September, 24, 1891.

pads under the joint where the crossbar was riveted, with the purpose, I suppose, of preventing injury to the head when the jury-mast rested on the child's crown. It is obvious that a child carrying a jacket of this kind receives no benefit from traction, but simply carries around on its inflamed spine the weight of the jacket and jury-mast, in addition to the weight of that part of its body that lies above the point of disease.

In upper dorsal disease, the point of inflammation is too high for the jacket to exercise sufficient control over movement, and for this reason I think that jackets are inferior to posterior metal supports fitted to pelvic belts that have bands passing above the crests of the ilia to form a base of support, so that traction by a jury-mast may be effective. In addition to this, there should be curved metal bars passing from a plate that rests against the scapulæ under the axillæ to the front of the shoulder, where padded metal plates should make pressure, in order to prevent the shoulders from dropping forward, and thus causing the chest to sink in.

Straps passing around the shoulders are not effective, and the point of pressure in front must be the head of humerus.

In cervical disease, also, if there be no time to have a suitable metal one made, the jacket is useful merely as a base of support for the jury-mast.

In lower dorsal and lumbar disease, however, for the reasons that I have mentioned, I think that jackets enveloping the body are more effective in giving rest to the inflamed area than posterior supports, as the latter exercise no upward traction, but simply bend the body backward, making a fulcrum of the posterior part of the spine opposite the point of disease, which they endeavor to separate, in the same way as a hinge is opened.

The more accurately a jacket fits, the better, and hence I prefer those made on the patient to those made over moulds made from the patient's jacket, as the second one is not so sharp in outline as the first, and, in small, skinny children it is often very difficult to get accuracy of fit, especially when there is great deformity. Very little changes make the difference in having a jacket that will not slip over the hips, and one that will so slide when the jury-mast is tight. For making the original jacket on the patient, I have found nothing so satisfactory as plaster-of-Paris.

In closing, I would say that if, because of sores or because the ilium is too small to afford a base of support, the case is not suitable to be treated in a jacket, I believe traction in bed by head-straps and weight and pulley, or by elastic, or, better still, by means of the portable wire cuirass, should be used, and, in all cases of paraplegia in Pott's disease, I would make faithful trial of traction and counter-irritation before proceeding to resection of the laminæ.

In making traction, I should be guided by the feelings of the patient. To use my father's words when he introduced plaster-of-Paris jackets seventeen years ago: "Raise the patient until he is comfortable; there stop, and keep him so."

SO-CALLED STRUMOUS INGUINAL LYMPHADENITIS.[1]

BY L. T. RIESMEYER, M.D.,
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THE pathology of the chronic forms of inguinal lymphadenitis is still a disputed question. I incline to the view of Culvert (Eulenburg's *Encyclopedia*) and Klotz (*Berlin. klin. Wochenschr.*, 1891), that the majority of cases known under the names of strumous buboes, indolent sympathetic buboes, hyperplastic lymphadenitis, etc., are caused by the absorption of pyogenic material and are not due to scrofula, tuberculosis, or syphilis. Of forty-three cases that I have observed, the majority had suffered from gonorrhea from six months to five years before they presented themselves. Three patients had chancroids, and one also a syphilitic chancre, a number of months before they came to be treated for the lymphadenitis. In five cases the swelling in the groin was attributed by the patient to the lifting of a heavy load, while for the rest no cause was ascertainable.

As a rule, the patients came during the later stages of the disease and presented the following symptoms: Face pale and ash-colored, loss of appetite, a tired feeling, pains in the limbs, chilly sensations alternating with sensations of heat, night-sweats. Temperature varying between 100° and 102° F.

Upon examination a large, nodular tumor, irregular in form, often fluctuating at one or more points, is found in one or both groins. The skin covering the tumor is, in contradistinction to the virulent bubo, of a livid, blue color, and is not infrequently perforated by one or more fistulous tracts. There is usually but little pain upon pressure. *In all cases the glands contained a great many miliary abscesses*, otherwise showing only a hyperplasia of the connective tissue and the medullary lymphatic tissue. Of microörganisms, staphylococci and streptococci were found. Hypertrophied lymphatic vessels run over and through the substance of the tumor. In some cases the glands presented one large fungous mass, in which no individual gland could be made out. The time required for the development of the tumor as described varied between six months and three years. No tuberculosis was found among

[1] Abstract of a paper read at the meeting of the Mississippi Valley Medical Association at St. Louis, Mo., October 14, 1891.

the cases and after the operation the patients presented a strong and healthy appearance. Strict antisepsis or asepsis is necessary in the extirpation of the glands, on account of the important structures in the neighborhood of the inflammatory focus. If the glands are not removed before the pus has broken through the capsule, the patients are exposed to the following dangers: hemorrhage and gangrene, in consequence of erosion of the femoral vein; deep abscesses of the thigh and pelvis and retroperitoneal abscesses; coxitis and gangrene of the scrotum, peritonitis, septicemia, and pyemia.

In one case serious complications were observed, namely, a deep abscess of the thigh, a pelvic abscess, and very extensive gangrene of the scrotum. The whole anterior half of the scrotum and part of the septum sloughed away, and for two weeks the temperature varied between 101° and 105° F. Three years later the patient was well; he had no inconvenience from cicatrical contraction of the scrotum, although no plastic operation or skin-grafting had been done, showing that the loss of one-half of the scrotum may not necessitate a plastic operation.

To extirpate the glands, the method recommended by Poelchen (Langenbeck's *Archiv. für klin. Chirurg.*), of first exposing the internal saphenous vein by a vertical incision and dissecting along this vessel, leaving it intact upon the fascia lata, is the most rational. The glands are in this way removed quickly and without endangering the femoral vessels. In conjunction with Dr. L. P. Pollmann, I have had occasion to locate this vessel topographically. After determining the location of the femoral artery in the usual manner, the internal saphenous vein is found exactly at the point of union of the external with the middle third of a straight line connecting the pubic spine with the point of intersection of Poupart's ligament with the femoral artery.

MEDICAL PROGRESS.

Operative Treatment of Traumatic Cortical Epilepsy.—BENDA (*Deutsche medicin. Wochenschr.*, September 3, 1891), before the Congress of German Surgeons, reported the case of a soldier, twenty years old, with no neurotic family history, who, a year and a half after a fall from a horse, attended with injury in the left parietal region, suddenly, while at work, lost consciousness. Subsequently there developed headache and pain, referred to the cicatrix of the previous wound; then apathy and weeping. These manifestations augmented in intensity, until finally syncopal and hysterical attacks occurred. Four months later, an epileptic seizure of several hours' duration took place, followed in the succeeding four days by four lesser seizures. Several days later, the paroxysms assumed a characteristic type, which they retained thenceforth. The attack began with tremor in the right foot, succeeded by clonic spasm in the right leg, tonic contraction of the right arm, and finally feebler contractions on the left side, and was followed by hemiparesis of the right side. Hysterical attacks alternated with the attacks described. Ultimately aphasia frequently became associated with the hemiparesis. Mental and physical failure progressed and permanent monoplegia of the right leg developed. Nearly two years after the accident, trephining was performed, the dura mater opened, and by means of the faradic current the center for the right leg localized. From this region an area of cerebral tissue, about as large as a dime and about one-tenth of an inch thick, was removed. The pial veins in the arm-center were ligated, the wound packed with iodoform-gauze and at the end of two days sutured and drained. The subsequent course was uninterruptedly favorable. After the operation, the right arm was paralyzed, the right leg to the knee paretic. Two weeks later, the palsy of the right arm suddenly disappeared. Nearly three months after the operation, an hysterical seizure occurred, induced by anger. Subsequently, however, there were no further indications of hysterical or epileptic attacks. Intelligence returned and mental occupation became possible. Slight motor weakness of the right arm, and a feeling of numbness at the right costal arch, the right knee and the ulnar side of the right ring-finger were the only abnormal clinical evidences that finally remained.

A Bullet in the Skull for Forty-three Years.—SAXER (*Corresp.-Blatt f. Schweizer Aerzte*, September 15, 1891) reports the case of a soldier who, when twenty years old, was struck by a bullet in the region of the left mastoid process, the missile perforating the bone and remaining unextracted. The patient lived for forty-three years after the reception of the injury. For twenty years a sinus persisted, the wound suppurating moderately. The patient complained of pain and a sense of weight and boring in the head and noises in the ears; there were mental confusion, impairment of memory, and other psychical symptoms. At the autopsy the flattened bullet was found imprisoned between the dura mater and the bone, in the midst of an inflammatory hyperplasia, behind and below the pervious defect in the bone. There was a permanent depression at a corresponding point in the left occipital lobe.

Ossifying Myositis.—MACDONALD (*British Medical Journal*, August 29, 1891) reports the case of a girl, four years old, in whom at two years of age hard nodules developed in numerous muscles of the head, neck, upper extremities, and trunk, occasioning rigidity and interfering with the movements of the affected parts. No hereditary factors could be elicited. Treatment was of no avail. Portions of the indurated parts removed were constituted of bone, having fibrous attachments of origin and insertion.

Kerauno-Neuroses.—FRANKL-HOCHWART (*Zeitschr. f. klin. Medicin*, Bd. xix, H. 5 u. 6, 1891) describes as kerauno-neurosis a condition that develops in persons who have been struck by lighting. The symptoms are those characteristic of the traumatic neuroses, and include palsies, tremor, derangement of common and of special sensation, limitation of the visual fields, ataxia, and exaggerated reflexes.

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SATURDAY, NOVEMBER 14, 1891.

IDIOSYNCRASY.

THE strange phenomena connected with idiosyncrasy serve but very dimly to light up the gloom of the chasms of our ignorance of physiological processes. We look with wonder into the depths and shudder that at last we know so little as to the ultimate constitution of protoplasm, the nature of nutrition, and the *modus operandi* of toxic substances. The writer knows a family of which the female members for several generations have been unable to eat strawberries without genuine and decided symptoms of poisoning ensuing. The male members of the family eat them as others do, but a single berry given by a disobedient nurse in a few hours killed a little daughter of two years. DEJEAN says that the celebrated HACHU was thrown into convulsions whenever he dared to eat strawberries.

Probably the most remarkable case of idiosyncrasy on record is that of DAVID WALLER, described in detail by DR. OVERTON in the *Southern Journal of the Medical and Physical Sciences*, vol. iii., 1855. In all other respects than that to be described, Waller was a healthy, normal man, born of healthy parents. Seven brothers and sisters were free from his idiosyncrasy, and his own seven children were also free from it. But to this poor man life became almost unendurable because for him wheat flour was poison. Unbelieving friends would deceive him, and put a pinch of flour into his food. Trusting them, he would eat, but the violent toxic symptoms never failed to follow. DR. OVERTON thus describes the peculiarity:

"If he eat flour in any form, or however combined, in the smallest quantity, it produces in two minutes or less, painful itching over the whole body, followed soon by severe colic and tormina in the bowels, great sickness of the stomach, and continued vomiting, which is ten times more distressing than that produced by tartar emetic—the itching is more greatly increased in violence, and especially of the head, face, and eyes, but tormenting all parts of the body, and not to be even appeased by any degree of scratching, or any other means ever used for the purpose; the eyes also burn painfully, turn very red, and discharge much water. And these latter symptoms occur usually in about ten minutes after eating the wheat flour, no matter how prepared—the sickness of the stomach preceding the other symptoms.

"The above symptoms continue for two days with intolerable violence, causing great torment, and begin only to decline in severity on the third day after the attack; and usually cease after ten days' continuance. As the foregoing symptoms begin to decline in violence, the effect of the poison appears to seize upon the lungs, causing much and distressing cough, soreness, and making the lungs feel rough from coughing, causing a feeling of suffocation, and the expectoration of a great quantity of phlegm. Toward the end of the attack the symptoms are like those of a person laboring under consumption, and have often caused him alarm, and to fear that they would terminate in that disease. The attack produces great weakness, confines him to his room, and most of the time to his bed, in which he is often obliged to be propped up to aid his breathing, which is difficult and laborious, like a person afflicted with asthma. Except during the few first days of an attack, the appetite is not greatly impaired.

"The smell of wheat flour produces all the above symptoms in a minor degree, except sickness at the stomach, vomiting, and pains and tormina of the bowels. It is for this reason that he cannot go into a mill, or house, where the smallest quantity of wheat flour is kept, without suffering; the smallest amount, if loose, is sure to be smelt, and, if not immediately escaped from, to produce upon him the painful effects before stated.

"This has been his condition from the time of his earliest recollection, and his mother has told him that when an infant at the breast, he had been laid out as dead, caused by feeding him with pap that was thickened with wheat flour."

MR. WALLER'S own explanation of this strange fact was that during gestation the family having no flour the mother's longing for wheat bread was intense, and when it was obtained and eaten it made her violently sick, and caused her to loathe such bread for some time afterward.

Shell-fish—crabs, lobsters, clams, mussels—pro-

duce cholera-morbus in a certain proportion of persons. DR. HYDE SALTER (*Edinburgh Medical Journal*, May, 1859) describes two cases in which a few grains of rice or rice-flour, however surreptitiously introduced into the food, speedily produced the greatest distress with asthmatic symptoms. Instances are on record in which figs have caused illness; eggs, swelling of the tongue and throat, and alarming sickness; veal, a nettle-rash; and it is well known that to many persons honey is almost or quite poisonous. Meat of any kind will in some persons produce violent pain, nausea, and vomiting. Vinegar will in certain patients cause cholera-morbus, and in others salad-oil will result in a cutaneous eruption all over the body. There seems to be no article of food that in certain individuals will not produce toxic symptoms, whenever eaten—even milk being a powerful gastro-intestinal irritant to some children.

There is even a greater chronicling of illogical and anomalous facts as regards drugs. One person will be mercurialized by a grain of blue mass, while another will take ten grains every day for a week without symptoms. One-thirtieth of a grain of morphine will sometimes produce decided physiological effects in some patients: in one acting as a hypnotic, in another as a stimulant. Five grains of potassium iodide have been sufficient to bring a patient to death's door. Toxic symptoms have been caused by $\frac{1}{400}$ of a grain of conine hydrobromate. A case was reported last year (*Amer. Journ. Med. Sci.*) in which enormous swelling of the tongue followed small doses of antipyrin. HARGENS had a patient who was repeatedly salivated by small doses of opium; WERNER reports a patient in whom violent emesis always followed the administration of the drug, and in GAUBIUS'S patient it produced a general desquamation of the epidermis.

If one seek for a satisfying explanation of the phenomena of idiosyncrasy in the books, he will seek in vain.

We begin to catch glimpses of reasons in the different reactions of various orders of animals to specific substances. Hogs are very resistant to snake-poison, graminivorous animals have a remarkable indifference to atropine, etc. In the facts of immunity, however, we get a deeper insight into the mystery, and in the selective action of different drugs upon special tissues of the body we seem to be yet nearer the truth.

It doubtless seems to have no logical connection with the foregoing to mention the simple but patent fact that every person exhales an odor different from that of every other person in the world. A dog, by smelling, can tell his master's footstep from that of every other person. Thus it follows that the atomic and molecular constitution of the general protoplasmic molecule is different for every individual. The selective action of drugs upon the various organs of the body proves the further differentiation of protoplasm in these different organs. The ultimate molecule of nerve-cells, of nucleoplasm or bioplasm, is the most complex of substances, formed of the greatest number of constituent atoms, and necessarily in a condition of the most unstable equilibrium. A touch or jar breaks off loosely-held component parts, and at the approach of a foreign intruder it readily yields them up, as they are caught in the more powerful sweep of the stronger vibration. It is upon this combined complexity and instability that depends the entire function of the release of energy, the conversion of molecular into mechanic force. The peculiar constitution of the protoplasmic molecule, ever varying and continuously changing, depends for the individual and for the organ upon the individual history and the special nutritional habit, inherited or acquired, and in each one it must therefore react in a different way to the same influence. Every molecule is an enormously complex system of systems of multiform subordinate vibrating atoms held loosely by the carbon sun to a common center. Powerfully modified in structure by a peculiar habit or experience, the molecule resists change by a neighboring alien or toxic system that would steal its peripheral comets or Neptunes. We thus catch a hint of the explanation of the fact of immunity. Or, again, by denial of accustomed nutrition the molecule may become so abnormally modified and permanently self-compensatory that the simplest nutriment may disrupt the delicate bonds, and what was once the best of foods become now the most potent of poisons.

PULMONARY TUBERCULOSIS AND MALARIAL FEVER.

THERE is probably no mistake in clinical medicine so common as that of confounding pulmonary tuberculosis and malarial fever. The latter is not often mistaken for the former. Though no harm might result, the error would still be a culpable one. But careless observation and criminal want of physical investigation have unfortunately in too many cases led to a diagnosis of malarial fever when a grave

disease of the lung existed. In such a case the error would be a fatal one, especially in view of the relative success with which, in judicious hands, cases of incipient tuberculosis are treated. "Malaria" has been made to serve as a diagnosis in many an obscure and anomalous febrile condition, but in no single one more disastrously than in pulmonary tuberculosis.

There is a period in the history of tuberculosis of the lungs when there may be reasonable diagnostic doubt, but a little patient waiting, with *careful observation, thorough physical exploration*, judicious therapeutics, and above all *examination of the blood and of the sputum*, in accordance with modern scientific methods, will set all doubts at rest. There can be no excuse for error, if any of these means of diagnosis are neglected.

The greatest difficulty, however, is encountered in cases in which, on repeated investigation, neither the evidences of tuberculous disease of the lungs are to be detected in the sputum nor the evidences of malarial disease are to be detected in the blood. In such cases importance is to be attached to the family history, to the hygienic surroundings, to the symptoms, and to the course of the disease, and, finally, to the results of treatment. Negative evidence can never be so valuable as positive evidence. Then there are other cases in which malarial infection is only too evident, but in which observation and examination would disclose the simultaneous existence of tuberculosis of the lungs. In the light of increased knowledge we can no longer maintain that malarial disease and tuberculous disease cannot coëxist.

The lesson to be derived from all this is, that the practitioner dare never, in any case, permit the possibilities of combination to escape him. In all obscure cases every line of investigation must be pursued to its ultimate refinements, and not an organ or system should escape the closest scrutiny. The medicine of the future must be alert, anticipating disease, preventing its development when possible, and stamping it out in its incipiency.

THE KEELEY CURE.

PEOPLE seem never to tire of chicanery and humbug. Mystery and quackery naturally go hand in hand, and the remarkable, almost inexplainable love of humanity for the adept professors of these twin arts will always furnish a plentiful supply of dupes. So great is the curse of drunkenness that if by the humbuggery of secrecy, delusion, and hypnotic suggestion, any considerable proportion of drunkards could be reformed, it would almost appear inexcusable to make light of the chicanery, and the expert trickster might pocket his million in undisturbed peace. But a knowledge of Nature's laws and of the facts of physiology leads one to recognize that revulsion and evil finally result from trifling with moral or physical facts. It is in the long run better to cure rightly and really than wrongly and delusively. The doing of evil that good may come is pathologically and therapeutically prone to be resultless of good.

Concerning the so-called bichloride-of-gold treatment of drunkenness, it may be suggested that bichloride of gold does not exist in stable solution. Our modern CAGLIOSTRO should know that the compounds of chlorine and gold are either the monochloride or the trichloride. He should, therefore, devise a new chemistry, or adopt a proper nomenclature.

There can be no discussion of the heinousness of the crime of advertising the possession of a remedy for drunkenness, and at the same time keeping the nature of the preparation or treatment a secret. If ever the use of thumb-screws and rack were justifiable they should be applied to the wretch that for purposes of gain would keep from humanity the knowledge of such a cure.

The medical profession, so far as its self-respecting members are concerned, has set its face rigidly against secret nostrums, and despite all the cry of bigotry and prejudice that may be raised by the unthinking mob of magic-mongers, there will be no compromise upon the question while there remain in the profession honor, love of fellow-men, and hatred of disease.

SOCIETY PROCEEDINGS.

NEW YORK STATE MEDICAL ASSOCIATION.

Eighth Annual Meeting, held in New York City, October 28, 29, and 30, 1891.

(Continued from p. 555.)

SECOND DAY—OCTOBER 29TH.

DR. F. M. WARNER, of New York County, read a paper entitled "Notes on the Treatment of Tuberculosis." Speaking of heredity, he said that the weight of authority was with those who believed that tuberculosis in very young infants was acquired by the ingestion of milk or other substance infected with tubercle-bacilli. What was inherited was a suitable soil for the development of the bacilli. Referring to prophylaxis,

he spoke particularly of the danger to the public health from lack of attention to the proper cleansing and disinfection of railroad cars. He detailed the histories of nine cases that he had treated with Koch's tuberculin, most of which showed decided improvement, two being apparently cured. The antiseptic treatment of pulmonary tuberculosis by inhalations of creasote and terebene, and the internal administration of creasote, had resulted in a marked diminution of cough, but had not arrested the progress of the disease.

DR. CHARLES W. BROWN, of Washington, D. C., read a paper on "Dislocation and Fracture of the Vertebræ," in which he expressed the view that in the treatment of these conditions the most important point is to immediately etherize the patient, and endeavor to reduce the dislocation by extension and manipulation, or by bending the spine across the knee as a fulcrum; and if these efforts proved ineffectual, to cut down upon the vertebra, effect the reduction, and remove any fragments of bone that were likely to become necrotic, or that were found to be pressing upon the cord. Careful studies, both clinical and pathological, showed that, after division of the cord, union is not likely to occur under any treatment. Of 123 recorded cases, 84 were cervical, 30 dorsal, 7 lumbar, and in 2 the location was not stated.

DR. DOUGLAS AYRES, of Montgomery County, read a paper entitled "Two Cases of Forward and Outward Dislocation of the Astragalus, with Mode of Reduction and Result," in which he expressed the view that it is not possible to formulate an exact course of procedure applicable to all cases of luxation of the astragalus, owing to various complications that may arise; but in the two cases reported, which were apparently typical, the prominent factors in bringing about the desired result were complete anesthesia, thus insuring perfect relaxation of the parts, and taking advantage of the best position to make extension and to graduate the force required.

DR. J. W. S. GOULEY, of New York County, exhibited a plaster cast that had been taken a few hours after the occurrence of a forward and outward dislocation of the astragalus. The cast showed well the prominence of the head of the astragalus upon the instep. Dr. Gouley also presented a patient who had received a similar injury a month previously. The case was admitted into the hospital a few hours after the accident, and an immediate attempt at reduction by means of manipulation with the hands was made, carefully avoiding the use of very much force. By flexion, extension, and a little rotation, a few minutes of such manipulation sufficed to effect the reduction. The leg was then enveloped in cotton and a snug bandage and an outer wooden-splint were applied. At the end of a week a gypsum bandage was applied, and after eighteen days this was removed and the patient allowed to walk around. The application of excessive traction by means of pulleys or other similar apparatus, is much more likely to do harm than good. The great point is to effect the reduction within a few hours after the injury, and to do this without the employment of much force.

DR. E. M. MOORE, of Genesee County, emphasized the inadvisability of employing much force in the attempts at reduction. He pointed out the importance of placing the splint at right angles.

DR. HOMER O. JEWETT, of Cortland County, exhibited some rat-tailed larvæ that had been voided from the human intestine in two different cases, together with carefully prepared histories.

DR. A. L. CARROLL stated that, with the aid of another entomologist, he had been able to determine that these larvæ belonged to one of two species of dipteræ—either meseron or eristalis. Their exact place could only be determined by examining the fully developed insects. Although several similar cases are on record, these are the best observed that have been reported. Very few physicians are aware of the comparative frequency with which these pseudo-parasites infest the human subject. It has been supposed that the larvæ are carried into the human stomach by drinking-water or uncooked vegetables, such as salad.

DR. S. T. CLARK, of Niagara County, presented a case of rupture of the diaphragm at the antero-posterior angle of the esophageal orifice, with consequent laceration of the branch of the phrenic artery that passes through the diaphragm at the corresponding point, and disturbance of the accompanying phrenic nerve. While lifting a heavy weight the patient was seized with a sharp, transient pain, referred to the extremity of the ensiform cartilage, and followed by nausea, pallor and great prostration. A small clot of blood was probably formed at this time, which accounted for the temporary amelioration in the symptoms. Two hours later, when the stomach was fully distended with food and the conical portion of the esophagus was distended by the disengaged gases, the lacerated surfaces were more fully separated, permitting a recurrence of the hemorrhage, with a corresponding augmentation of the pallor and nausea, to which diaphoresis was added. Shortly after, under similar circumstances, the same symptoms appeared with increased severity. On the following day the accumulated clots filled the anterior portion of the middle mediastinum, and crowded the heart an inch and a half to the left. A week later the clots had so far become absorbed as to permit the heart to resume its normal position and action. A slight pericardial friction-sound was heard at one time; this was interpreted as indicating that there was a partial organization of the clot at the apex, with the formation of adhesions at that point.

In the discussion on alienism, the subject of the causation of insanity was taken up by DR. JUDSON B. ANDREWS, of Erie County, in a paper on "Heredity and Environment." He expressed the view that the drift of thought tended to make heredity a *direct* and *exciting*, rather than a predisposing cause. To do this is to make life the result of an irresistible fate. It has been calculated that in the United States, in a population of one hundred thousand, there are two hundred insane people, of whom fifty would have an insane ancestry. There is a great tendency to exaggerate the force of heredity. Heredity alone does not produce insanity; its influence is to be found in a greater liability in the individual to become insane under some exciting cause existing in the environment. Dr. Andrews strenuously opposed the view that because insanity has existed in the family of a patient, there is little or no hope for the recovery of that patient. Those of insane ancestry may be confidently assured that there is no fatality about heredity, as it can only become a factor in the

production of insanity under conditions favoring the development of insanity, and these conditions are such as result in deterioration of the general health, and particularly of the vigor and integrity of the nervous system. These influences depend upon environment and not upon heredity. Environment, therefore, may be potent to intensify or to antagonize heredity. While heredity is most powerful at the adolescent period of life, there is also at this time the greatest mobility and the readiest control, as the environment is largely a matter of choice. In mature life there is much more danger of the development of insanity, but then there is an opportunity for the individual to so live as to overcome the hereditary influence.

DR. H. M. HURD, of Maryland, considered the relations of traumatism and shock to insanity. The far-reaching character of heat-stroke as a cause of insanity could not, in his opinion, be over-estimated. Cases of insanity following heat-stroke display the same suspiciousness and apprehension as those in which the insanity is due to traumatism. Shock sometimes produces an instability, rendering the patient emotional and lacking in will-power. Such cases yield the richest harvest to the hypnotist and mind-curer. Injuries to the head during childhood often lessen the brain-resistance and render the subjects liable to the development of mental disease at the physiological epochs of life, particularly at puberty. The most characteristic feature of traumatic insanity is constituted by delusions of suspicion and apprehension, and sometimes a tendency to vice and crime. With few exceptions the prognosis is bad.

DR. P. M. WISE, of St. Lawrence County, discussed the relation of bodily diseases and senility to insanity. He quoted statistics to show that bodily diseases contribute from 12 to 14 per cent. of the cases of insanity in both sexes. Pregnancy and the puerperal state contribute 9 or 10 per cent. of the cases in females. Post-febrile insanities now form a smaller proportion than formerly, owing to the abandonment of depletive treatment. When the insane-diathesis exists, the patient requires extreme care during convalescence, to prevent the development of an incurable form of insanity. Heart-disease, on account of the attendant anemia, is often a direct physical cause of insanity, quite independently of other predisposing causes. The multiform traumatic causes furnish only a small etiological factor, and the same is true of sunstroke. For some years past, epidemic influenza has been assigned as a cause of melancholia; the great mental depression frequently accompanying influenza almost stamps it an epidemic nervous disease. It has probably been potent as a cause of insanity and of shattered nervous systems. The popular belief that diseases of the sexual organs bear a close relation to insanity is not well founded. Dr. Wise held that there is no uterine psychology; in a somewhat extensive experience with gynecologists in insane-hospitals, he had never seen a recovery from insanity even remotely due to gynecological treatment; he believed that in a few cases such treatment had actually interfered with recovery. The physiological epochs of life—pubescence, adolescence, and the climacteric—present fruitful periods for the unbalancing or unstable brains. Much might be said about the importance of harmony of development of the body and mind during the period of pubescence. The child-bearing processes act as frequent exciting causes in women, most often after the puerperium, and next in frequency during lactation. It is rare, however, for insanity to occur under these circumstances, without some preëxisting constitutional tendency, either inherited or acquired by a life of poverty and overwork. Protracted lactation in neurotic women is a perilous proceeding, and may result in life-long mental alienation. From a psychological standpoint there is a normal pathology of old age. Dr. Wise deprecated the growing tendency to certify as insane cases presenting this so-called normal pathology.

DR. G. ALDER BLUMER, of Oneida County, took up the relation of syphilis and intemperance to insanity. He quoted statistics from various countries to show that, with the exception of France, the percentage of cases of general paresis in which syphilis exists as an antecedent condition is from 60 to 80. In regard to the proportion of forms of insanity other than general paresis due to syphilis, the statistics of the Utica Asylum show that the proportion of syphilitics to the total number admitted is 52 per cent.

Those having much experience with the insane will not deny that one of the most common causes of insanity is alcoholic excess. It seems probable that confirmed drunkenness of the parent is as potent as actual mental disease or mental deficiency to predispose to the development of insanity in the children; in fact, drunkenness is a transient insanity. Intemperance is often assigned as a cause, when in reality it is only a premonitory symptom. When directly the result of alcoholic intemperance, insanity is generally associated with systematized delusions and hallucinations of a persecutory character; this is not apt to be the case when insanity is a symptom of intemperance. Alcohol first excites, then paralyzes in succession every nervous center in the body.

DR. E. N. BRUSH, of Maryland, confined his remarks to a consideration of arrest of development and diseases of infancy as factors in the causation of insanity.

DR. W. D. GRANGER, of Westchester County, discussed "Causes of Insanity Peculiar to Women."

DR. CHARLES STEDMAN BULL, of New York County, read an exhaustive paper on "Tumors of the Orbit and Neighboring Cavities.

THIRD DAY—OCTOBER 30TH.

DR. HENRY D. DIDAMA, of Onondaga County, read a paper entitled "Mental Therapeutics," in which he considered many of the cures that have been popular at various times, and deduced from them certain useful lessons.

DR. MARCY, of Boston, and DR. FELL, of Erie County, entered an earnest plea for better popular instruction on medical topics, a duty devolving upon each individual member of the medical profession. Dr. Fell spoke particularly of the frauds constantly being practised upon the community by irregular and unscrupulous physicians.

DR. A. PALMER DUDLEY, of New York County, delivered the "Address in Gynecology." After reviewing the advances recently made in this department, he discussed the treatment of fecal fistula following laparotomy. Prophylaxis was of the greatest importance, most cases being preventable by careful and deliberate methods of

operating. Absolute rest in bed was requisite for the successful treatment of such a fistula, together with a diet that produced a minimum quantity of gas. Closure from the bottom could be promoted by passing daily through the fistula a piece of marine lint, soaked with balsam of Peru. Should the usual methods fail, a secondary laparotomy must be resorted to.

DR. GEORGE E. FELL, of Erie County, related a case of puerperal eclampsia associated with the uric-acid diathesis, and raised the question, What had this diathesis to do with the eclampsia? He cited some experiments demonstrating that in animals an excess of uric acid in the blood might give rise to convulsions. He also cited the case of a woman, who in the early months of pregnancy failed rapidly in health, coincidentally with the appearance of symptoms of the uric-acid diathesis, but who was rapidly restored to health by alkaline treatment, associated with daily irrigation of the bladder.

DR. FELL also reported "A Case of Embolism of the Pulmonary Artery Successfully Treated by the Persistent Use of Oxygen Inhalations." At the time the patient was first seen by Dr. Fell she was in a critical state and thought to be dying. The dyspnea, which was most distressing, was instantly relieved by the first inhalation of oxygen, and every attempt to discontinue these inhalations was followed by a return of the dyspnea and cyanosis. It was found necessary to use the oxygen continuously for four days, the total quantity used being nearly 1200 gallons. The object of the treatment was to keep up respiration and oxygenation for a time, in the hope that the embolism would be absorbed, and the obstruction thus removed. This occurred, and the patient eventually recovered.

DR. WILLIAM D. GARLOCK, of Herkimer County, read a paper on "Typhoid Fever in Children," in which he said that the most prominent symptom is the febrile movement, which begins earlier and rises more rapidly to the acme in children than in adults. The evening temperature is usually from 103° to 104.5°, and the ascending curve is not so regular as in a typical case in the adult. The whole duration of the fever is also shorter: of 80 cases, 7 lasted less than ten days; 30 from ten to fifteen days, and only 12 cases lasted the usual twenty-eight days. In children, the proliferation in Peyer's patches is more superficial than in the adult, and the proliferated cells undergo fatty degeneration and are absorbed without the formation of ulcers. In adults, the fever is partly due to the germs and the typhoid toxine and partly—*i. e.*, after about fifteen days—to the absorption of septic matter at the surface of the intestinal ulcers. As it is rare for children with typhoid fever to have ulcers of the intestine, they usually escape the period of secondary fever—hence, the shorter duration. The abdominal symptoms are usually not very well marked in children, but owing to the fact that the intestines of children are very easily irritated, the diarrhea is often more troublesome than one would suspect from the abdominal tenderness and tympanites.

DR. JOSEPH D. BRYANT, of New York County, considered the "Operative Treatment of Carcinoma of the Breast."

The requirements for successful operative treatment are (1) a prompt recognition of the growth by the patient herself; this can only be accomplished by individual effort on the part of medical men to impress upon the laity the importance of immediately attending to all growths about the breast, no matter how apparently insignificant, and by explaining the prospects of success, if this condition be complied with; (2) a prompt consultation with a careful and competent physician; (3) immediate, wide, and thorough excision of the growth and of all the tissues having functional connection with the gland. The incision should not be less than two inches from the apparent borders of the growth, and the operator should not concern himself about the amount of tissue removed, for if there be not enough left to form flaps and completely close the wound the granulating area can be quickly made to heal by skin-grafting.

DR. E. D. FERGUSON, of Rensselaer County, read an interesting paper on "Congenital Imperforate Rectum," and described the methods of treatment best adapted to the varying conditions.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Nineteenth Annual Meeting, held at Kansas City, Missouri, October 20, 21, 22, and 23, 1891.

FIRST DAY—OCTOBER 20TH.

DR. C. D. MCDONALD, of Kansas City, read a paper on "The Cause and Prevention of Infant Mortality," giving statistics showing that the mortality of infants soon after birth was 20 per cent., of which one of the principal causes was exposure to a low temperature. Inducing sleep by means of soothing syrups is another evil. Still another is the forcing of improper food, such as crackers, and water and whiskey into the stomach of the newly born.

Statistics show that in the first year of life the mortality among infants fed upon artificial food is 50 per cent.; with the employment of natural food, the mortality is but 10 per cent. The best artificial food is pure cow's milk. Sterilization by chemical processes is not thoroughly successful, because vital principles cannot be supplied by chemical processes, but sterilization is preferable to impure milk.

Starchy substances cannot be digested by the infant's stomach. By the chemical processes of the stomach, they are first converted into sugar, then alcohol, and then acetic acid. Improper dressing—thin clothes—is also a prolific source of disease among infants.

PROF. W. W. DANIELLS, of Madison, Wisconsin, expressed the view that no one should be allowed to sell milk in cities unless he put his dairy establishment under the control of the sanitary authorities.

DR. JOSEPH SHARP, of Kansas City, Missouri, read a paper on "Glanders in Man," in which he presented the report of a case. He recommended that to prevent glanders, those who came in contact with horses having open sores or discharges from the nose should disinfect the hands with a solution containing a tablespoonful of equal parts of glycerin and carbolic acid in a quart of hot water, or ten grains of corrosive sublimate in a quart of water.

DR. PAUL PAQUIN, of Battle Creek, Michigan, reported a collection of seventeen cases of glanders in man. He related the case of a man who, driving behind an affected

horse, was struck in the eye by a spray from the beast's nostrils, as a result of which glanders rapidly developed and terminated fatally.

CHIEF JUSTICE HORTON, of Kansas, read a paper on "The Necessity for More Stringent Legislation to Repress Empiricism," in which he recommended that, for the protection of the public, the American Public Health Association should recommend the enactment of statutes excluding from the medical profession those who are not competent by learning, skill, and experience to practise, and punishing by imprisonment any who violate the provisions. No one should be permitted to practise medicine or engage in surgery unless authorized to do so by a competent board of Government or State examiners.

MR. ALLEN HAZEN, of Lawrence, Mass., read a paper on "Water-supply and Public Health," in which he maintained that as the germs of typhoid fever and of cholera gain entrance into the system with food and drink, pure water is a necessity. If water is absolutely free from sewage, it can be depended on as being comparatively pure, although many waters not polluted by sewage have been known to breed disease. Flowing streams will partially purify themselves. Water will not always become purified in reservoirs and long channels. Some system of filtration is therefore imperative, and the question to be decided is as to the best system of filtration.

DR. HENRY B. HORLBECK, of Charleston, S. C., presented some vital statistics from the Southern States, showing the death-rate among the colored population to be much greater than among the whites.

DR. FREDERICK MONTIZAMBERT, of Quebec, delivered the President's Address. He stated that the objects of the meeting were to quicken interest in the more purely preventive work of the profession, to increase interest in the organization and working of the coast quarantines and health-boards, in the sewage of cities, the disposal of garbage and refuse, the purity of water-supply, the infectious diseases of animals now known to be closely related to those of man, as well as other much broader questions of modern sanitation.

SECOND DAY—October 21ST.

DR. PAUL PAQUIN, of Battle Creek, Michigan, read a paper on "Vaccine and Vaccination," in which he dwelt upon the necessity for employing absolutely pure vaccine.

DR. YESI, of Mexico, spoke of the compulsory vaccination of Mexico. Only human vaccine is used. Vaccine from the lower animals is not cultivated. Better results are obtained from human than from animal vaccine. A serious smallpox epidemic has not visited that country in about twenty-five years.

DR. L. F. SOLOMON, of New Orleans, La., stated that in Louisiana each child must show a vaccination certificate before being allowed to attend school. About 90 per cent. of the primary vaccinations were successful. He favored the use of bovine virus.

DR. DELOS FALL, of Albion, Michigan, read a paper on "The Disposal of Garbage and Refuse," in which he discussed the intimate relation between typhoid fever and the accumulation of waste organic matter.

DR. EDWARD CLARK, of Buffalo, New York, made a report on the collection and transportation of garbage and refuse in cities. He advised full police power for the sanitary service of large cities. A galvanized iron tank holding about two or three bushels is the best receptacle for holding household garbage. The refuse tank must not be placed on the street or sidewalk, but the collector should be compelled to go to it, remove the contents, and replace the cover. For transporting garbage, carts are preferable for short, and wagons for long, hauls. The beds should be made water-tight and should be flushed after each dumping. The bed should be covered with iron.

DR. J. J. KINYOUN, of the U. S. Marine-Hospital Corps, read a paper on "Rabies," in which he said that the disease is transmitted almost wholly by the canine and feline species. It prevails all over the world, except in Australia, where it is not known. He opposed the idea that the disease occurs only in warm weather; statistics show that the greater number of cases occur in December and May. Recognition of the disease is not easy in any animal in the early stages. Dr. Kinyoun advocated the establishment and enforcement of strict quarantine regulations in order to eradicate the disease.

DR. P. C. REMONDINO, of San Diego, Cal., read a paper on "American Climates and their Physical Effects," in which he said that European immigrants soon lose their ruddy cheeks and bright eyes, with a certain loss of spirit, when they come to this country, because they lived in disregard of all hygiene or science. In changing climate they followed no rational rules for the necessary change of diet.

In a paper on "Animal Diseases" MR. ERNEST L. DUNDAS, of Kansas City, recommended police supervision of all milk dairies. He stated that the Jersey cow is the most generally afflicted with tuberculosis.

DR. PETER BRYCE, of Toronto, stated that in Canada milch cows were never bred, and in one city they are never used after they have once been dry, but are immediately sent to the butcher. It seemed to him that in view of the fact that there are 15,000,000 cows daily supplying the country with milk, and that in certain abattoirs from 5 to 10 per cent. of the cattle killed are tuberculous, there should be a most rigid and regular inspection of all milch cows.

DR. DOMINGO ORVANANOS, of the City of Mexico, presented a paper entitled "New Organization of the Supreme Board of Health of Mexico," in which he outlined the work of the Mexican Supreme Board of Health, of which one exceedingly good feature is the sending of a surgeon-physician with every ship leaving Mexican ports, who shall be held responsible for the sanitary condition of the vessel, and who shall be obliged to report to the Mexican consul at every port where the vessel may touch, and obtain from him a clean bill of health.

DR. GEORGE HOMAN, of St. Louis, Mo., read a paper on "Land Habitation as a Public Health Measure," in which he endeavored to demonstrate the benefits that would arise by the individual ownership of homes, as that would render less likely the dissemination of any communicable disease, and would render easier the measures to be taken against disease by permitting isolation, a most desirable feature in combating contagious disease.

THIRD DAY—OCTOBER 22D.

DR. PETER H. BRYCE, of Toronto, read a paper entitled "The Present Position of the Milk-supply Problem from the Public Health Standpoint, and Some Practical Methods for Securing Safe Public Supplies," in which he briefly summed up the precautions necessary to secure healthy milk:

1. It is especially desirable that a system of periodic veterinary inspection be exercised, in addition to the dairyman's inspection.

2. Careful supervision should be exercised as to the nature and quality of food for cows. All decomposed foods, such as those that are liable to undergo fermentation, should be wholly avoided. The best foods are well-ripened grains and grasses.

3. The stables for cows are too often dark, damp, ill-ventilated and crowded pens. It is quite possible to keep a dairy stable, even on a large scale, free from the ordinary disagreeable stable odors. The water-supply of the cows is of equal importance.

4. The care of the milk at the time of taking and subsequently is of all points the most difficult and the most necessary to a supply of wholesome milk. This means almost a revolution amongst farmers and dairymen. The sterilizing of all cans and bottles by steam or dry heat and the boiling of all strainers will be necessary.

5. The delivery of milk is of prime importance.

6. When milk has reached the consumer it must be placed in a refrigerator or be promptly consumed.

FOURTH DAY—OCTOBER 23D.

PROF. W. W. DANIELLS, Chairman, of Madison, Wis., read the Report of the Committee on Car Sanitation, in which it was shown that the great difficulty in the heating arrangement of cars was that all systems devised for the purpose provide for heat alone, and not for ventilation.

At the conclusion of the meeting a resolution was passed that in 1893 the Association should hold its meeting in Chicago, and that, so far as possible, the occasion be made an international congress of hygiene and public health.

The following officers were elected for the ensuing year: *President*, Dr. Felix Formento, of New Orleans, La. *Vice-Presidents*, Dr. Walter Wyman, of Washington, D. C., and Dr. Domingo Orvananos, of Mexico. *Secretary*, Dr. Irving A. Watson, of Concord, N. H.

The next meeting is to be held at the City of Mexico, at a time to be fixed by the officers of the Association.

CORRESPONDENCE.

NEW YORK.

The Filthy Streets—The Disposition of Stable-Refuse—Operating Theater of the Roosevelt Hospital—Case of Extreme Deformity—New Method of Staining Bacilli—Hydrophobia or Lyssophobia.

IN my last letter I had occasion to speak of the filthy condition of our streets, and its effect upon the public health. It was not a new story to those who had resided in our misgoverned city, but it seemed at that time as if even our long-suffering citizens had nearly reached the limit of their patience. Since that letter was written, the Mayor, in tardy response to the public outcry, has removed the utterly incompetent street-cleaning commissioner, and has appointed a much more energetic and business-like man in his place. How much the Mayor was influenced by the action of the Academy of Medicine, I cannot say, but it is encouraging to note that this body of medical men felt called upon to direct special attention to the unsanitary condition of the city, and to emphasize the importance of the labors of the advisory committee which the Mayor appointed to inquire into this subject. In the discussion in the Academy on the adoption of these resolutions, Dr. Abraham Jacobi very pointedly remarked: "It seemed that instead of teaching the poor immigrants how to be clean, we learned from them how to be dirty, and it was particularly unfortunate that most of the dirt accumulated in those districts which are the most densely populated."

Another matter closely touching upon the subject of the public health, as well as upon the public comfort, concerns the disposition of stable-refuse, and although this may seem to be a rather odd subject to interest ladies, it has not escaped the vigilant eyes of the members of "The Ladies' Health Protective Association." This band of workers has taken up the cudgel in earnest against the stable-keepers who still persist in disposing of their stable-manure after the methods of their forefathers. This has long been a bone of contention with the sanitary authorities, and as long ago as 1866, when the Board of Health was organized, this was among the first and most difficult problems which confronted the Board. At that time, the greatest nuisance of this kind was at Forty-sixth Street and the East River, where large quantities of manure were dumped and allowed to remain all through the winter months, the heaps being frequently stirred up to prevent the manure from spoiling. While the health authorities have done much since then to abate such nuisances, there is still much to be done, and hence, the ladies of this Association, making common cause with the Section on Public Health of the Academy, set apart one evening for a joint discussion of the subject. Dr. F. R. Sturgis said that he had observed that very severe cases of diphtheria were particularly frequent in families living over stables. The large stables could easily and profitably make use of the baling machine, but in the establishments having only from two to ten horses there would be much difficulty in enforcing a rule requiring all manure to be baled, for the manure would have to accumulate for some time before it could be baled. If the health authorities would allow the small stables to put up the manure in barrels, then one of the greatest difficulties connected with this subject would at once disappear. But before the stablemen can be won over to our way of thinking, they very naturally insist upon knowing whether baling will lessen the commercial value of the manure. Experiments carried on by the chemist of the Board of Health have shown that the manure is not wet enough to lose any of its valuable properties by the process of baling, and that manure which has been kept in bale for thirty days has not deteriorated in the least. Major Bullard, the chief inspector of the Board of Health reported that under a

systematic weekly inspection, accumulations of stable-refuse upon the docks had been effectually prevented. There are upwards of sixty thousand horses in the city, and as 1100 loads of manure are removed daily, it does not seem probable that much is left in the city. These figures are founded on data gathered by the Board of Health. There is very little baling now going on, but about twenty-five per cent. of the stables are disposing of the manure in barrels. Dr. Alexander Hadden approved of the suggestions that had been made, but he thought we were not doing ourselves much credit by dumping the manure upon our neighbors, and on this account more stringent measures should be adopted, with the idea of preventing the unbaling of the manure until it reaches the consumer. It was resolved at this meeting to urge upon the Board of Health the enactment of a law making it unlawful after the first of October to transport manure in the built-up portion of the city, except in bales, or in properly covered receptacles. I have not been able to learn whether such a regulation is yet in force.

The handsome new operating theater of the Roosevelt Hospital is rapidly nearing completion. It is intended that it shall embody all the latest improvements of construction, as well as be supplied with the most approved of the many appliances used in modern surgery. To this end, Dr. Charles McBurney, who has entire charge of the arrangements of the building, spent some time in Europe last spring, gathering together the most recent ideas, in order that this magnificent contribution to surgical science may be made the most perfect of its kind in the world. I hope before long to be able to furnish a more detailed description of it.

A few days ago, Dr. Reginald H. Sayre exhibited before the orthopedic surgeons a case of extreme deformity from congenital lateral curvature of the spine. The patient, who is now fourteen years of age, presents a large V-shaped gap in the ribs on the right side of the thorax, through which the liver can be readily felt. The chest is of course very greatly distorted. the respiratory sounds are puerile, but the heart-sounds are normal. When she was first seen by Dr. Sayre, about one week before, her height was four feet six and three-quarters inches, but after being suspended in the spinal swing, there was a gain in height of five-eighths of an inch, and strange to say, this gain has been permanent. Dr. Sayre stated that he had met with several cases in which there was a permanent increase of stature as the result of this treatment.

A new method of rapidly staining bacilli in sections of tissues, which appears to possess some practical advantages, has been recently brought forward by Dr. J. M. Byron, of the Loomis Laboratory. The peculiar feature of the process is the way in which the sections are made to adhere firmly to the cover-glass. This is effected by immersing them in an albuminous fluid, and then coagulating the albumin. The sections, after being well rinsed with water, are put into a solution of equal parts of egg-albumin and a concentrated solution of boracic acid, the latter being added to preserve the albumin. When thoroughly soaked, they are transferred to a cover-glass, dried, and then immersed in a solution which will coagulate the albumin—*e. g.* absolute alcohol, equal parts of alcohol and ether, or better, a one per cent. solution of bichloride of mercury in absolute alcohol. After washing with water, they are stained by any of the ordinary methods.

The case of hydrophobia recently reported in the daily papers as occurring about a fortnight ago in Elizabeth, New Jersey, is one that may prove of more than usual interest to those here who are making a special study of this disease. A boy, eight years old, in the latter part of July was bitten by a dog, and was treated in the Elizabeth Hospital. The wound healed naturally, and the boy was kept in the hospital for some time, and seemed to be perfectly well. He was discharged from the hospital October 1st, and about a week later developed symptoms that the attending physicians thought were those of hydrophobia. I am told that the patient presented exaggerated reflexes, and when disturbed, suffered from spasms. His temperature ranged quite high—104° or more—and the symptoms, according to one observer, were more like those of a severe case of typhoid fever than of hydrophobia. My reason for saying that this case may prove more than usually instructive and interesting is that some observers incline strongly to the belief that most, if not all, the cases of so-called hydrophobia in the human being are really instances of lyssophobia, or a "dread of hydrophobia." Among those who advocate this doctrine is Dr. J. M. Byron, who, in a discussion upon hydrophobia at the last meeting of the Neurological Society, brought forward some of the grounds for his belief.

The five cases that he reported would have undoubtedly gone on record as instances of hydrophobia had they not been subjected to a searching investigation according to the methods pursued in our modern laboratories. The modern scientist it not content with calling a case hydrophobia simply because the hapless patient was at some time, more or less remote, bitten by a dog, nor is he satisfied with a plausible array of symptoms. He must have some of the patient's spinal marrow, and must inoculate a series of rabbits with this, and wait for a number of weeks to see if these animals develop rabies. Even this will not always suffice for our modern skeptic, who will not admit the case to be certainly one of rabies until this disease is produced in other rabbits inoculated with virus taken from the first series. It is after this fashion that Dr. Byron has weighed his cases in the balance, and has found them wanting. In one case, the post-mortem examination showed death to have been due to a hemorrhage at the base of the brain; in another, the negative results of laboratory experiments, together with the symptomatology, pointed to acute mania as the probable condition; in a third, death was due to an ascending paralysis, and the two remaining cases were examples of pure lyssophobia. The case in which death is ascribed to ascending paralysis is especially interesting, as it occurred in the person of a physician who assisted at an autopsy made upon one of the other cases. He received a slight wound at the autopsy, and shortly afterward developed symptoms that suggested to some the possibility of his having hydrophobia. He accordingly received the regular Pasteur treatment, but the course of the disease was in no way stayed, but rather seemed to become worse. The physician who performed the autopsy also wounded himself quite severely with a knife at the time he was en-

gaged in cutting that part of the body in which the virus of rabies is conceded to be the most virulent, viz., the spinal cord, yet he suffered no inconvenience from the wound, and has remained in perfect health. Some of those who saw the fatal case were of the opinion that death actually resulted from the antirabic inoculations, but the subsequent examinations did not confirm this view. If, as Dr. Byron seems to believe, nearly every reported case of hydrophobia is really one of lyssophobia, which may be roughly compared to a grave case of hysteria, it is pertinent to inquire how the boy in Elizabeth, who was too young to have any "dread of hydrophobia," and who had no idea that he was even dangerously ill, could be a victim of lyssophobia.

OBSTETRICS IN MEXICO.

To the Editor of THE MEDICAL NEWS,

SIR: The practice of this particular branch of medicine in this part of Mexico is not surrounded by all the conveniences that one of the progressive modern school might desire, which is a mild way of saying that the path of the practitioner is beset by all the difficulties and strewn with all the horrors that ignorance, superstition, squalor, and filth are continually opposing to the efforts of science. The Mexican law requires that the "parteras," or midwives, shall have a diploma showing that they have undergone a certain amount of instruction. The intention of the legislator was good, but it is as inefficient as other good intentions, which are said to make good paving material in a place which is hotter even than this place in the "rainy season." In this town of five thousand inhabitants, although there are a number of women who follow this avocation, there is not one who has fulfilled the requirements of the law. As might be expected, there is a great deal of bad obstetrics practised. The physician is called only to those cases that are complicated or become so through mismanagement. I give reports of a few cases to which I have been called.

November 1, 1891, at 5 A.M., I was summoned to see a young primipara, and found the following condition of affairs: The parturient female was squatting on the floor or ground in a small hut, and the midwife kneeling in front of her was engaged in making active compressive movements upon her abdomen. I made the woman assume the recumbent posture, and then loosened a cinch which was tied very tightly about her middle and which was almost cutting her in half. I always find this sinch tied very tightly about a woman, no matter what may be her trouble, perhaps from some superstitious belief in the merits of tight lacing, which is not confined to these parts. Upon inquiry, it became evident that the woman had been in labor about twenty hours; that at 1 A.M. a child had been born, and at that time the midwife discovered that the uterus contained another child. During the four hours that elapsed between the birth of the first child and my appearance upon the scene the midwife had been engaged in ineffectual efforts to expel the child by squeezing the abdomen. By palpation, I discovered the fundus of the uterus lying to the right side and the child in the transverse position. Vaginal examination revealed the fact that a hand and an arm were protruding. Although uterine contractions were fairly strong, of course the child could not be born.

I determined to do podalic version and terminate the labor as soon as possible. No assistance was obtainable whatever, except a few ignorant Mexican women and the father of the patient, and these objected to the procedure. Having silenced them by asking Why, then, have you sent for me? I administered chloroform and then introduced my right hand into the uterus, steadying that organ with my left. Passing the right hand to the fundus I was successful in grasping a foot and, bringing it down, quickly delivered a child which had the appearance of having been dead for some time. The placenta was delivered by the method of Credé, and a uterine douche of bichloride solution of 1:1500 was given. There were no bad results, no appreciable rise of temperature, and the woman wished to get up on the second day.

The second case occurred several days later and was that of a multipara, who was suffering from retained placenta. In a previous labor she also had the same trouble. My predecessor had performed the operation for extraction of the placenta without the use of an anesthetic. I gave chloroform and extracted the placenta with some difficulty, as it was firmly adherent. The after-treatment was the same as in the preceding case, and was followed with equally good results.

The third and last case which I cite was that of a primipara who had been in labor two days. Upon my arrival I found the woman squatting, holding with both hands to a rope attached to a beam in the roof, the midwife in front of her pressing upon the abdomen and with her other hand in the vagina trying to pull down the child. I made the woman lie upon the floor (there was no bed or table in the hut nor in procuring distance), and upon examination discovered that the head was in the L. O. A. position, but had not entered the pelvis on account of discrepancy in size. I administered chloroform and proceeded to do the high forceps operation. The operation was attended with considerable difficulty, as I was oblighed to sit upon the floor and work in that disadvantageous position. After pulling for thirty minutes I succeeded in extracting the head, there being in the meantime no uterine pains, as the uterus was exhausted. During the process of the operation the midwife, who was also the mother of the woman, became maudlin-drunk (she was moderately so when I commenced), and I was obliged to dispense with her services and relegate her to the outside. My assistants (?) were then limited to the husband of the parturient and two women, who held her while I pulled. I would pull them all four across the floor, and then we would take the patient back and commence over again. Finally, I discovered that progress was being made, and taking the forceps off, the child was delivered with the heart beating feebly, but it stopped, and all efforts to restore it to life were unavailing. The mother of the woman rallied sufficiently to keep the patient awake all night, giving as a reason her fear that if she went to sleep she would never wake up. There was a laceration of the perineal body and retention of the urine for about two days, but with these exceptions, the woman made a good recovery.

FRANCIS D. MERCHANT, M.D.
BATOPILAS, MEXICO.

SENDING INVALIDS AWAY FROM HOME.

To the Editor of THE MEDICAL NEWS,

SIR: After spending several winters wandering about the South in search of relief for certain bronchial troubles, I feel myself competent to make some remarks deserving consideration.

In the first place, I wish to record my indignant protest against the practice of sending incurables away from home. A large proportion of the invalids one meets in the South are the victims of cruelty or ignorance on the part of their medical advisers, who indiscriminately use a method of treatment that can be of advantage only in the first stages of disease. In most of the so-called "health resorts" there is no provision made for those that are seriously ill. The hotels and first-class boarding-houses do not want them, and the idea of a second-class boarding-house, crowded with these misguided creatures, is something awful to contemplate. I can bear witness, that in many instances death is hastened by the want of proper food and the home-sickness that comes from unpleasant surroundings; and the blame lies at the door of the doctors who pack their patients off, so far as they are concerned, literally to "parts unknown." Certainly, no conscientious physician, having a personal knowledge of these places, would send thither patients in the advanced stages of disease without first making sure that they will be placed under the most favorable circumstances. Without such provision, they will be almost sure to come back in their coffins, or die on the road in the struggle to get to homes they never should have left. If possible, a house should be taken for such persons, and they should be surrounded by their friends and the comforts to which they have been accustomed. For those that cannot afford this, any decent home in the vilest climate in the world is a better place than any "health resort" in the South with which I am acquainted.

Again, while there is no doubt in my mind that many persons in the incipient stages of phthisis, as well as those that are only delicate, are greatly benefited by escaping from the harsh northern winter, I am sure that much harm is done by making the change too great. The idea of a "vestibule train" that takes you from New York in a snow-storm, and lands you among the orange groves of Florida within twenty-four hours, is fascinating in the extreme; but the results are not good. In a normal season the transition is too sudden, and one finds the heat oppressive and debilitating. Great circumspection is required in making a change of clothing, because a drop from 80° to 40° is far more trying than one from 40° to zero, and such changes as the first and even still greater, are not uncommon, even among the orange groves.

For the benefit of the busy practitioner who has no time to look for himself, I venture to suggest that even his consumptive patients, properly selected, will show better results in the bracing air of such a place as Marietta in the highlands of northern Georgia; or at Aiken, still worthy of its old-time reputation; or, better still, among the sand hill pines of historic Camden, with its picturesque old mansions, and a well-sustained reputation for good living handed down from the luxurious old planters of the ante-bellum days of South Carolina.

Finally, bitter experience has taught me that no delicate person who has passed the winter in the South should trust himself in the treacherous climate of the regions about New York or Boston before July 1st.

J. H. ROGERS, M.D.

SAG HARBOR, L. I.

UNUSUAL MODE OF TRANSMISSION IN A CASE OF DERMATITIS VENENATA.

To the Editor of THE MEDICAL NEWS,

SIR: In your issue of October 24th I see the report of a case of unusual mode of transmission in a case of dermatitis venenata. I wish to report a parallel case. One of the severest cases of dermatitis I have seen occurred in a lady, Mrs. E., aged fifty-three. On July 21st, the patient, a near relative, asked me to give her something for "hives." She was given what was deemed necessary, and on the 24th, as she walked with difficulty and seemed to be suffering considerably, I ordered her to bed, and on inspecting the parts found buttocks and thighs edematous, very red and hot, and covered with small vesicles, which were not easily ruptured. She complained of intense burning and itching. Having had wheals that itched in conjunction with mosquito-bites, and having scratched herself quite severely, I looked on the case as one of eczema, the result of the scratching—an artificial eczema. Zinc and calamine lotion, carbolic acid spray and other applications seemed not to relieve her. She remarked that her trouble reminded her very forcibly of ivy-poisoning, which she had once had. As she had not been exposed, so far as we could ascertain, the idea was not long entertained. She suffered excessively, and the next day I asked Dr. J. B. Keber, Professor of Dermatology at the Beaumont Hospital Medical College, to see her with me. He pronounced it a case of dermatitis venenata. Where contracted?

The patient remembered that her husband had been to the country on two occasions just a few days before she became affected, and that he had had a slight skin eruption, reddish in color, with a few "small blisters" that itched, on his forehead, cheek, and wrists. It was so slight as to be hardly noticeable. She herself had applied a soothing lotion to the affected regions, using her hands to mop it on, at the same time or shortly after scratching a mosquito bite on her right knee. The next day she noticed the wheals, which led her to make a diagnosis of hives; and things rapidly went from bad to worse. The husband was examined, and desquamation was in progress on his wrists and forehead. Here, then, the husband carries the poison, having a very slight eruption, and the wife infects herself and suffers in a very distressing manner.

Grindelia robusta gave her no relief; powdered aristol, a mention of which was seen in THE MEDICAL NEWS, was given a trial, and proved of no value. Sulphate of zinc, as a lotion, and carbolic acid with oil of peppermint, in the shape of a spray, gave the most relief. Fully two weeks elapsed before the patient was able to be about again with any degree of comfort.

W. L. BLICKHAHN, M.D.

ST. LOUIS, MO., Nov. 4, 1891.

WASHINGTON AS A MEETING-PLACE.

To the Editor of THE MEDICAL NEWS,

SIR: I consider Washington to be so clearly the best place for our Congress that I am moved to say a word as to the cause of the diarrhea from which I, in common with many others, suffered during our second and very successful meeting.

The water was not to blame. I drank no drop of it, except as it was used boiled in coffee. I know of others who suffered despite this and every other precaution; also, the manifestation was too general to have been due to food, for it affected people living in hotels and in private houses. Finally, it existed over a large part of the country—in Newport, R. I., for instance, whither I went after a week in the Maryland hills, where also it was sharply felt. The cause, therefore, was not the product of Washington, nor should it be allowed to influence us when again we come to summon, for a like purpose, the remarkable body of men which constituted the Congress.

Yours truly,

WEIR MITCHELL, M.D.

1524 WALNUT STREET, PHILADELPHIA.

CORRECTION.

To the Editor of THE MEDICAL NEWS,

SIR: Will you do me the favor of making the following corrections in the report of my remarks before the American Electro-therapeutic Association that appeared in THE MEDICAL NEWS of October 31st. Near the bottom of the second column of page 521 I am represented as saying that I had abandoned puncture because I feared failure. What I did say was that I had abandoned abdominal puncture, not because I had any bad results, but because I feared unpleasant consequences, as others had reported them. I am still in favor of vaginal puncture, and believe it harmless when properly done under appropriate indications.

The final sentence of the second paragraph on page 522 should read: "In some sensitive conditions the negative pole cannot be used satisfactorily unless the faradic current is employed afterward."

A. H. GOELET, M.D.

REVIEWS.

THE REFRACTION OF THE EYE: A MANUAL FOR STUDENTS. By GUSTAVUS HARTRIDGE, F.R.C.S., etc., with ninety-eight illustrations and test types. Fifth edition. Philadelphia: P. Blakiston, Son & Co., 1891.

THIS most excellent handbook is now so well known as perhaps the best concise, small treatise upon the subject that nothing more is needed than merely to call attention to the introduction of considerable new matter into the fifth edition and a careful revision of the whole work. The only fault that may be found with the work is one that it has in common with all works of the kind: after the refraction is made and the prescription written no word is said as to the hundred and more faults of construction and adjustment of the spectacles that neutralize, change, or increase the improper functions of the eye which the oculist hoped to correct. Hardly one out of a hundred pairs of spectacles sold and worn is properly made or accurately and scientifically adjusted. Every such fault has a medical significance. This dereliction of duty on the part of the optician is at the expense of the oculists, and these should hammer away at the wrong until it is corrected. There is no reason against, but many for, the advisability of the physician taking the matter up himself.

A CLINICAL TEXT-BOOK OF MEDICAL DIAGNOSIS FOR PHYSICIANS AND STUDENTS, BASED ON THE MOST RECENT METHODS OF EXAMINATION. By OSWALD VIERORDT, M.D., Professor of Medicine at the University of Heidelberg. Authorized translation from the second improved and enlarged German edition, with additions. By FRANCIS H. STUART, M.D. With 178 illustrations, many of which are in colors. 8vo., pp. 709. Philadelphia: W. B. Saunders, 1891.

WE regret that this good translation of an excellent book is marred by a large number of errata, some of which are noted in a table, and others, such as *sulphate* of ammonium for ammonium *sulphide*, *chloride* of mercury for *bi-chloride* of mercury, and the like, must be detected by the reader. The directions for examinations of patients are thorough, detailed, and accurate; and the explanation of the signs and symptoms discovered, while not in all cases beyond dispute, is at least tenable, and in the main that which has received the support of the best professional opinion. The arrangement of the material is admirable. General considerations precede detailed study of special organs. In the special sections the order is logical, and the phraseology, when not obscured by the translator, lucid. Space does not permit us to review in detail the views of the author or to criticise other than a few special points.

We would suggest that in the section upon subnormal temperature, mention might have been made of the continuous subnormal temperature which occurs at times in epidemic influenza, and even persists long after recovery from the acute symptoms; while the statement that subnormal temperature during recovery from fever occurs only at crises is misleading, for, as all know, it is an ordinary feature of convalescence from typhoid. We are glad to note the importance paid to inspection of the thorax—a method of examination too often neglected, probably because of the trouble and loss of time involved in removal of the clothing. We should hesitate to diagnosticate any case of thoracic disease without inspection of the naked chest. The author believes that "lagging" of one side or one portion of the chest, detected most easily by palpation, may be for some time the only symptom of beginning phthisis, of pneumonia, pleurisy, infarction, etc. The acoustic principles underlying percussion and auscultation are well elucidated. We note in passing that the author lays comparatively little stress upon the so-called "cracked pot" sign as indicative of a cavity. Much more significant does he consider change of sound upon opening or closing the mouth while percussion is made over a cavity (Wintrich), and the change in percussion-sound produced by difference of posture and due to the shifting of fluid within the cavity (Gerhart). In the excellent study of cardiac sounds, we should have liked to have seen some emphasis laid upon the frequent occurrence of an aortic

systolic murmur that is not due to stenosis. The section upon sphygmographic signs is much better than in most books of the kind; that upon microscopic examination of the blood is also very good. Among throat affections we are glad to find "pharyngo-mycosis leptothricia" specifically recognized. The section upon the examination of the contents of the stomach, as might be expected in a German treatise, is quite full. That upon cerebral localization is illustrated with a number of very good diagrams. There is a fairly good index.

While for distinct pictures of special diseases, such as we find in Da Costa's *Diagnosis*, one searches this volume in vain; on the other hand, it has a special value of its own in that it gives much detailed information concerning methods of examination, not to be found so readily and so consecutively in other works. We can cordially recommend it to the physician and to the student as one of the most useful of a number of works upon diagnosis which they will need in study and in practice.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Volume III. Third Session, held at Atlanta, Ga." 8vo., pp. xli, 444. Published by the Association. Philadelphia: Wm. J. Dornan, 1891.

THIS volume is made up of thirty-one essays upon surgical and gynecic subjects, together with the discussions thereon. The field covered is a wide one, which will prevent a detailed review. In general it is sufficient to say that the character of the papers and discussions is high, and reflects credit upon the Association. Among the papers deserving special notice, either because of the excellence of their preparation, or because their appearance is opportune, we mention: "The Health of the American Girl, as Imperilled by the Social Conditions of the Day," by George J. Engelmann, M.D.; "How shall we Treat our Cases of Pelvic Inflammation," by Richard B. Maury, M.D.; "Inflammation In and About the Head of the Colon," by L. S. McMurtry, M.D.; "Operation in Ectopic Pregnancy," by Charles A. L. Reed, M.D.; and "Cancer of the Cervix Uteri in the Negress," by Howard A. Kelly, M.D.

The article by Dr. Engelmann is a careful review of the modern conception of the relation between civilization, especially current educational and social methods, and sequal disorders in women. It is presented in the thoroughly complete and scientific manner characteristic of its author. The immediate future will demonstrate the truth or falsity of the author's views; for if true, the very general diffusion of the modern education among the people will produce results so palpable as to be demonstrative.

Dr. Maury presents the modern conception of pelvic inflammation: the pathology, that of Bernutz; the treatment, that of the gynecologists of the day. The pathology of non-puerperal pelvic inflammation is salpingitis, with its complications; that of puerperal pelvic inflammation is usually the same, but at times is a true cellulitis. Cellulitis is an acute, not a chronic condition. The treatment of salpingitis, except in mild cases, and especially when pus is present or attacks of peritonitis recur, is removal of the uterine appendages by abdominal section. The discussion showed that the sound views of the author were shared almost unanimously by the Association.

The paper by McMurtry on appendicitis, and the discussion, are in entire accord with the recent papers by Fitz, Weir, Treves, Morton and McBurney. The trend of opinion is decidedly toward early operation for appendicitis—on or before the third day, unless improvement takes place—and toward immediate operation for perforation or spreading peritonitis. The evil effect of opium in masking the real nature of the case is insisted upon.

Dr. Kelly reports two cases of epithelioma of the cervix in the negress; one of the women, so far as could be learned, was a pure negress, while the other had a slight admixture of white blood. Allusion is made to four other cases of carcinoma in the negress seen by him in Baltimore, and to a case recently published in Boston. These cases comprise the literature of the subject. Heretofore the negro has been thought to be exempt from carcinoma. In all the cases, there was perhaps an admixture of white blood some generations back; or it may be that the influence of civilization has made the tissues of the negro vulnerable to carcinoma.

DISEASES AND REFRACTION OF THE EYE. By M. C. MACNAMARA, F.R.C.S., Surgeon to the Royal Westminster Ophthalmic Hospital; Surgeon and Lecturer on Surgery, Westminster Hospital, etc.; and GUSTAVUS HARTRIDGE, F.R.C.S., Surgeon to the Royal Westminster Ophthalmic Hospital; Ophthalmic Surgeon to St. Bartholomew's Hospital, Chatham, etc. Fifth edition. Small 8vo, pp. xv., 604. Philadelphia: P. Blakiston, Son & Co., 1891.

THE incorporation of the fifth edition of the well-known students' manual on the *Refraction of the Eye* of Mr. Hartridge with Mr. Macnamara's *Manual of the Diseases of the Eye* into a single volume is a most excellent and happy combination. Careful comparison of the two parts with the last editions of the authors' previously separate works shows extensive and painstaking revision. Amongst the most important changes, the entire subject-matter has been brought to date, side-headings, names of authorities, and the imperfect chromolithographs found in the work of Mr. Hartridge have been all properly omitted; the sequence and naming of chapters have undergone rearrangement; and even entire paragraphs have been transposed, judiciously pruned and rewritten: altogether, there has been much gained by the association. Unfortunately, however, the chapter on anatomy by Dr. Johnson, which prefaced the last separate volume of Mr. Macnamara, has been broken into parts, with and without foot-note references to the writer, and relegated to the various chapters to which the special subjects belong, thus causing the work of Dr. Johnson to practically lose its autonomy in the combined volume.

After a most pleasant and instructive reading of the entire volume, it can be justly said that both the authors and the publishers are to be congratulated upon the careful revision and excellent production of this most praiseworthy work—a work which, we unreservedly as-

sert, is, for the student and the general practitioner, without exception the best, the safest and the most comprehensive manual upon the subject published at the present time.

NEWS ITEMS.

The Orton Prize.—At the annual meeting of the New York State Medical Association, held in New York on October 28–30, the J. G. Orton Prize of $100 for the best short, popular essay on some subject connected with practical sanitation was awarded to Dr. Howard Van Rensselaer, of Albany, N. Y., for an essay on "Impure Air, and the Ventilation of Private Dwellings."

The Medical Society of the State of New York will hold its next meeting at Albany, February 2, 3, and 4, 1892. Dr. Seneca D. Powell, of New York; Dr. James D. Spencer, of Watertown; and Dr. Franklin Townsend, of Albany, have been appointed the Business Committee.

The University of Munich has offered a prize for the best thesis during the session of 1891–92, upon "Experimental and Clinical Investigations as to the Occurrence and the Diagnostic Significance of Leukocytosis."

Transmission of Tuberculosis by Railway Coaches.—Investigation has shown that four of ten railway coaches running between Berlin and Meran contained small numbers of tubercle-bacilli of only moderate virulence.

Adamkiewicz has been granted permission to utilize the material at the surgical clinic of Albert, at Vienna, in the pursuit of his investigations with a remedy for carcinoma.

The German Government has directed the establishment of a modern, well-equipped biologic station on Heligoland.

Docent Obrzut has been elected Professor Extraordinary of Pathological Histology in the Czech University at Prague.

Gram has been made Professor Extraordinary of Pharmacology at Copenhagen.

Cschiesch, of St. Petersburg, has been elected Ordinary Professor of Psychiatry at Dorpat.

A new Austrian Military Pharmacopœia is to enter into force in January, 1892.

Loeffler, of Greifswald, has been elected Ordinary Professor of Hygiene at the University of Marburg.

CORRECTION.

In the "Hospital Note" on page 515 of THE NEWS of October 31st, the name Stite throughout should have read *Stile.*

BOOKS AND PAMPHLETS RECEIVED.

Christianity in Japan and the Leper Problem. By Albert S. Ashmead, M.D. New York: Moore & Co., 1891.

The Post-partum Douche. By Edwin Pynchon, M.D. Reprint, 1891.

Some Syphilitic Lesions of the Eye. By H. V. Würdemann, M.D. Reprint, 1891.

Addresses, Papers, and Discussions in the Section of State Medicine at the Forty-second Annual Meeting of the American Medical Association, at Washington, D. C., May 5–8, 1891. Chicago: Printed at the Office of the Association, 1891.

The Place of Fixation in the Traction Treatment of Hip Disease. By Robert W. Lovett, M.D. Reprint, 1891.

The Prevention of Morphinism. By J. B. Mattison, M.D. Reprint, 1891.

A Plea for the Extra-peritoneal Treatment of the Stump in Abdominal Hysterectomy for Fibroids. By A. Lapthorn Smith, B.A., M.D., M.R.C.S., F.O.S.L. Reprint, 1891.

A Practical Treatise on the Diseases of Women. By T. Gaillard Thomas, D.D., LL.D. Sixth Edition, Enlarged and thoroughly Revised by Paul F. Mundé, M.D. Philadelphia: Lea Brothers & Co., 1891.

Comparative Anatomy of the Domesticated Animals. By A. Chauveau, M.D., LL.D. Revised and Enlarged with the cooperation of S. Arloing, Director of the Lyons Veterinary School. Second English Edition, translated and edited by George Fleming, C.B., LL.D., F.R.C.V.S., with 585 illustrations. New York: Appleton & Co., 1891.

Transactions of the New York State Medical Association for the Year 1890. Vol. VII. Edited for the Association by E. D. Ferguson, M.D. Published by the Association, New York City, 1891.

Essentials of Bacteriology. By M. V. Ball, M.D. Saunders's Question Compends, No. 20. Philadelphia: W. B. Saunders, 1891.

Physicians' Ready Reference Account Book. Arranged by Gideon C. Segur, M.D. Hartford, Conn.: Plimpton Manufacturing Co., 1890.

Artificial Anesthesia and Anesthetics. By De Forest Willard, M.D., R.M., Ph D., and Lewis Adler, Jr., M.D. Physicians' Leisure Library. Detroit, Mich.: George S. Davis, 1891.

Transactions of the State Medical Society of Wisconsin for the Year 1891. Madison, Wis.: Tracy, Gibbs & Co., 1891.

Diseases of the Skin. By A. Allan Jamieson, M.D., F.R.C.P. Ed. Third Edition, Revised and Enlarged. Edinburgh and London: Young J. Pentland, 1891.

History of Circumcision. By P. C. Remondino, M.D. No. 11 in the Physicians' and Students' Ready Reference Series. Philadelphia and London: F. A. Davis, 1891.

Mechanical Massage. By B. D. Eastman, M.D. Pamphlet, 1891.

Essentials of Nervous Diseases and Insanity; a Manual for Students and Practitioners. By John C. Shaw, M.D. Philadelphia: W. B. Saunders, 1891.

Ptomaïnes, Leucomaïnes, and Bacterial Proteids; or, The Chemical Factors in the Causation of Disease. By Victor C. Vaughan, Ph.D., M.D., and Frederick G. Novy, Sc.D., M.D. Second Edition, Revised and Enlarged. Philadelphia: Lea Bros. & Co., 1891.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 7, 1891.

SIMONS, MANLY H., *Surgeon.*—Ordered to U.S.S. "Mohican."

DUBOIS, FRANK, *Medical Inspector.*—Ordered to U. S. S. "Philadelphia."

WOOLVERTON, T., *Medical Inspector.*—Detached from U. S. S. "Philadelphia," and ordered before Retiring Board.

BLACKWOOD, N. J., *Assistant Surgeon.*—Detached from U. S. S. "Newark," and ordered to Navy Yard, League Island, Pa.

BROWNELL, C. DEW., *Assistant Surgeon.*—Detached from Navy Yard, League Island, and ordered to U. S. S. "Newark."

LEACH, PHILIP, *Passed Assistant Surgeon.*—Detached from the Naval Academy, and ordered to U. S. S. "Monocacy."

PAGE, JOHN E., *Assistant Surgeon.*—Detached from the U. S. Receiving-ship "Independence," and ordered to the U. S. S. "Iroquois."

FIELD, JAMES G., *Assistant Surgeon.*—Detached from the Bureau of Medicine and Surgery, and placed on waiting orders.